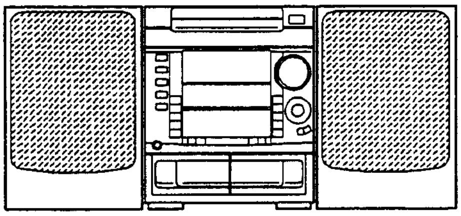
aiwa

AIWA-02203

aiwa
SERVICE

NSX-F9



COMPACT DISC STEREO
CASSETTE RECEIVER

- BASIC TAPE MECHANISM : 2ZM-3MK2 PR4NM
- BASIC CD MECHANISM : 6ZG-1 DFNM

- TYPE : HE, LH

SERVICE MANUAL

SYSTEM	CD – CASSEIVER	SPEAKER	REMOTE CONTROLLER
NSX-F9	CX-NF9	SX–NAVF9	RC UNIT, 6AS01

- If requiring information about the Speaker, see Service Manual of SX-NAVF9, S/M Code No. 09-971-177-4FP.

S/M Code No. 09–96B–173–5FP

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CD DIASSEMBLY INSTRUCTIONS

1 ピックアップの交換方法

1）TRAY をｵｰﾌﾟﾝさせる。
stopper を矢印の方向へ押し、SHAFT SLED 半分だけ抜く。

2）GEAR MAIN CAMを反時計方向（ “a” の方向) に回し、figure 1のようにCDﾒｶを持ち上げる。

3）SHAFT SLED を抜く。

4）CDﾒｶを下げてPICK UPを交換する。

5）CDﾒｶをfigure 1のように上げて、SHAFT SLEDを取り付ける。

1. How to replace PICK UP.

1) Open the TRAY.
Push the stopper to arrow direction and release half of the SHAFT SLED.

2) Turn GEAR MAIN CAM to the counterclockwise (arrow “a”) direction, and lift up CD mechanism. (figure 1)

3) Remove SHAFT SLED.

4) CD mechanism in down position, replace PICK UP.

5) Lift up CD mechanism (figure 1), and Reassemble the SHAFT SLED.

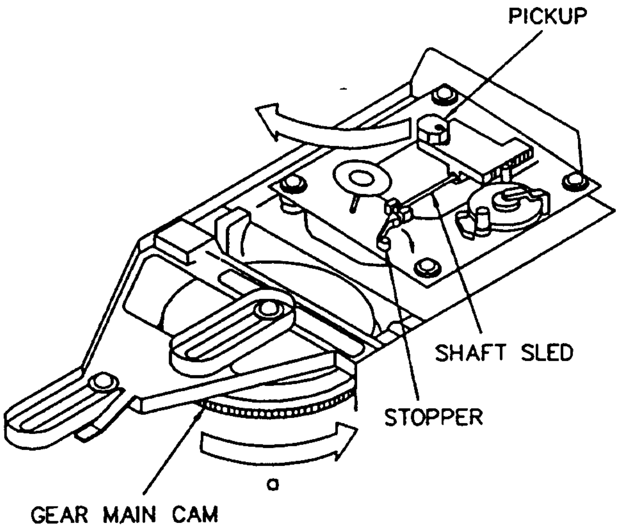


Figure 1

2.5巻ﾁｪﾝｼﾞｬｰﾌﾞﾛｯｸの外し方 (figure 2)

1）CD基板のFFC２本を外し、ﾋﾞｽ5本を外す。

2）５巻ﾁｪﾝｼﾞｬｰﾌﾞﾛｯｸを後から持ち上げて外す。
(PANEL TRAY を外さなくても、５ﾁｪﾝｼﾞｬｰﾌﾞﾛｯｸを後から外すことができる。)

2 . How to remove 5CD CHANGER BLOCK (figure 2)

1) Remove the two FFC of the CD circuit board, and remove the five SCREWS.

2) Lift 5 CD CHANGER BLOCK from behind, and remove it.
(5CD CHANGER BLOCK can be removed even if PANEL TRAY are not removed.)

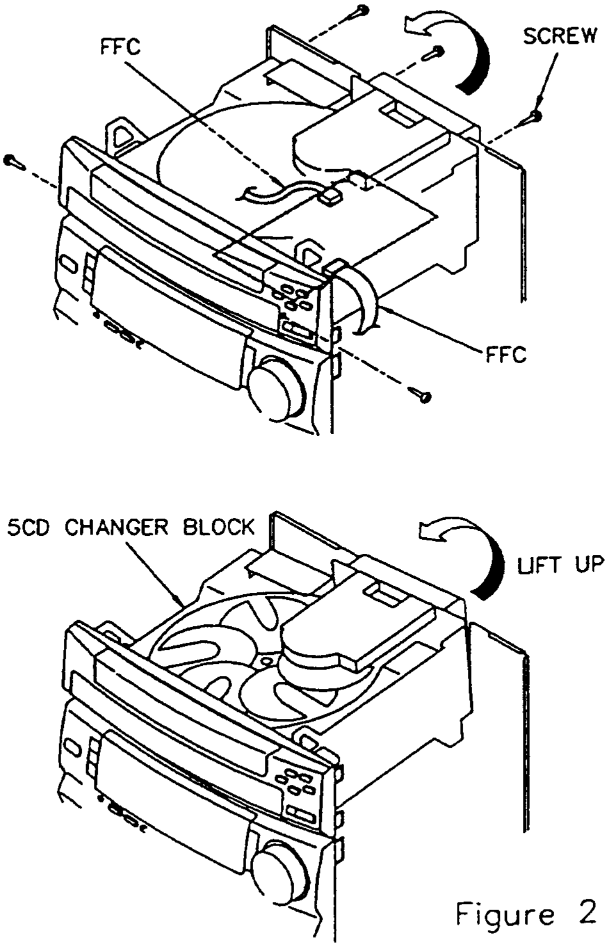


Figure 2

SPECIFICATIONS

<FM Tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity(IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

<MW Tuner section>

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 uV/m
Antenna	Loop antenna

<SW Tuner section> (HE)

Tuning range	5.900 MHz to 17.900 MHz
Antenna	Wire antenna

<Amplifier section>

Power output	Rated 160 W + 160 W (6 ohms,T.H.D.1%,1 kHz)) Reference: 200 W + 200 W (6 ohms, T.H.D.10%,1 kHz) *(without connecting to the SURROUND SPEAKERS)
Total harmonic distortion	0.1% (20 W, 1 kHz, 6 ohms, DIN AUDIO)
Inputs	VIDEO/AUX : 150 mV(adjustable) MIC 1,MIC 2: 1mV (10 kohms)
Outputs	LINE OUT: 200mV SUPER WOOFER: 3.1 V SPEAKERS: accept speakers of 6 ohms or more SURROUND SPEAKERS: accept speakers of 16 ohms or more PHONES (stereo jack) : accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CRo_2 tape: 50 Hz – 16000 Hz Normal tape: 50 Hz –15000 Hz
Singnal-to noise ratio	60 dB (Dolby B NR ON, CrO_2 tape peak level)
Recording system	AC bias
Heads	Deck 1 : playback head x 1 Deck 2 : Recording/Playback/ erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	83 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

<Speaker system SX–NAVF9>

Cabinet type	3 way, bass reflex (magnetic shielded type)
Speakers	Woofer : 160 mm cone type Tweeter : 80 mm cone type Super tweeter: 20 mm ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	260 x 353 x 330mm
Weight	5.9 kg

<General>

Power requirements	120 V / 220 – 230 V / 240 V AC, switchable 50/60 Hz
Power consumption	210 W
Dimensions of main unit (W x H x D)	300 x357.5 x 374 mm
Weight of main unit	13 kg

- Design and specifications are subject to change without notice.

- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
  "DOLBY" and the double-D symbol ▯▯ are trademarks of Dolby Laboratories Licensing Corporation.

- The word "BBE"and the "BBE symbol" are trademarks of BBE Sound, Inc.
  Under license from BBE Sound,Inc.

3 TRAY の分解・組立て方法

（1）分解方法

1） CHAS MECHA 下部のPLATE GEARのﾎﾞｽを外側（矢印“b”方向）に強く押す。(figure 3)
（TRAY が少しせり出すのを確認する）

2） TRAY をｵｰﾌﾟﾝ位置まで引き出す。

3） FFC を抜き、両ｻｲﾄﾞ のCHAS MECH ﾂﾒ（2ケ所）を押してTRAYを外す。(figure 4)

3. The disassemble and reassemble the TRAY

(1) Disassembling procedure.

1) Push the PLATE GEAR'S Bossat the bottom part of CHAS MECHA strongly to the outside (arrow “b” direction). (figure 3)
(Confirm that TRAY appears a little in the front.)

2) Draw TRAY to the open position.

3) Remove FFC, and push the two LEVERS at both side of the CHAS MECH to remove TRAY. (figure 4)

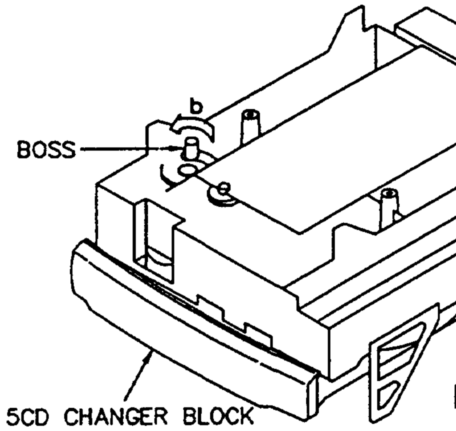
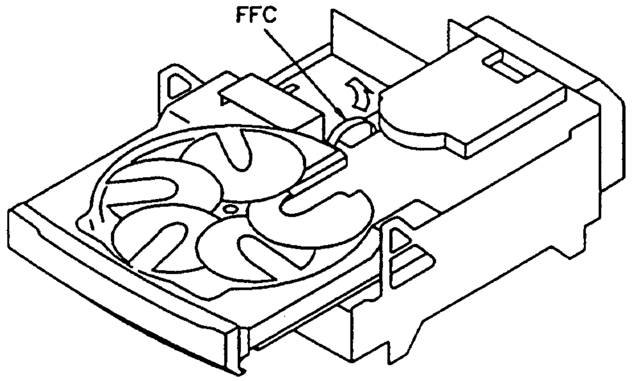


Figure 3



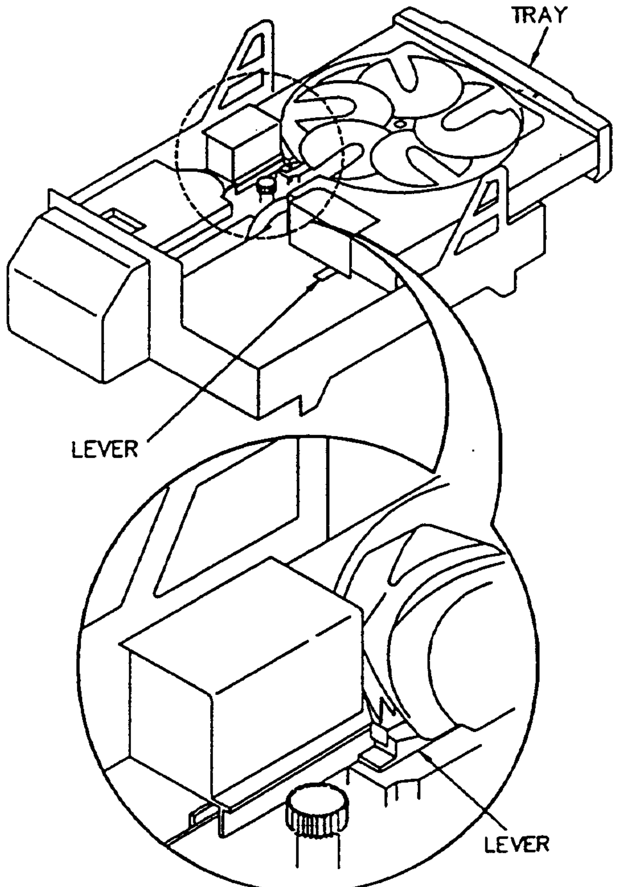


Figure 4

（2）組立て方法

1） LEVER TRAY が figure 5 の位置で、CD ﾒｶが下がっていることを確認する.

2） TRAY をCHAS MECHAのﾚｰﾙに沿って組み込む。

3） 半分までTRAY を組み込んだらFFCを差し、TRAYを最後まで押し入れる。(figure 6)

(2) Reassembling procedure.

1) Confirm that LEVER TRAY is at the most right position in order for the CD Mechanism to be in the down position. (figure 5)

2) Push in the TRAY along the rail of the CHAS MECHA.

3) After TRAY is half closed and FFC is put in, it can enter by force until the end of TRAY closed. (figure 6)

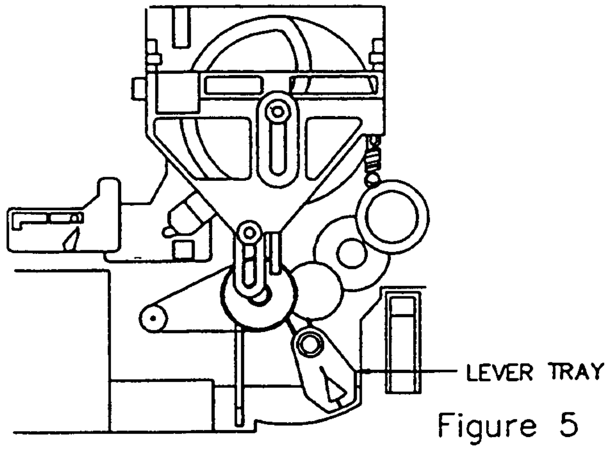


Figure 5

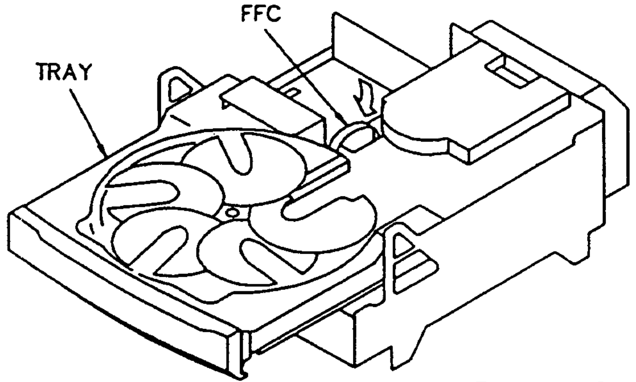


Figure 6

4. ﾀｰﾝﾃｰﾌﾞﾙの組立方法 (figure 7)

1） LEVER TT を “C” の方向に押しながら、TURN TABLE 5CD を組み込む。(figure 7)
この時、TRAY 5CD とTURN TABLE 5CD の切り欠きが同じ方向になるようにする。(figure 8)

＊ 組み込む際のTURN TABLE 5CDのCD番号（1～5）は任意で構いません。(figure 7)

4. How to reassemble the TURN TABLE. (figure 7)

1) Push LEVER TT in the direction of "C", and put in the TURN TABLE 5CD. (figure 7)
After reassembly, one of the TURN TABLE DISC TRAY (can be either one of the five disc trays) must be aligned with TURN TABLE 5CD. (figure 8)
That is, having no gap difference between the TURN TABLE 5CD and the TRAY 5CD.

＊ When reassembling the TURN TABLE 5CD, it is acceptable facing any CD numbe r (1～5).

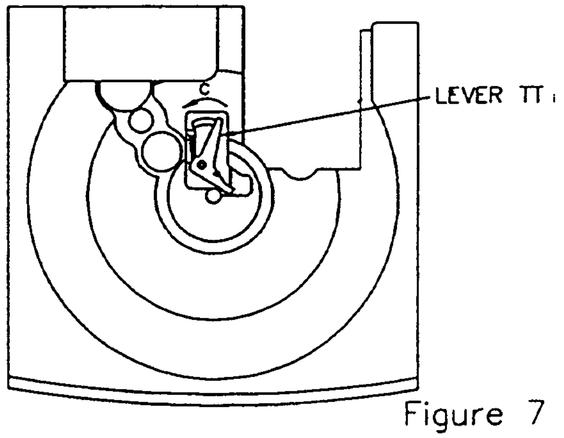


Figure 7

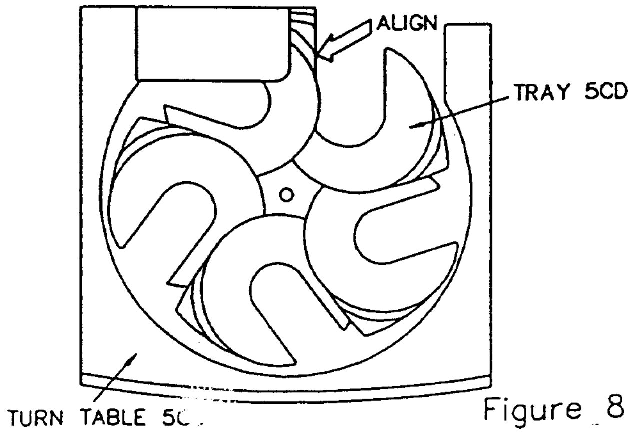


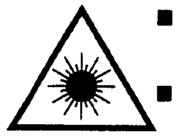
Figure 8

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstäling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saataa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

Precaution to replace Optical block

(KSS-213B)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use the clothes do not touch the diode.

1) After the connection, remove solder shown in figure below.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herin may result in hazardous radiation exposure.

ATTENTION

L'utillisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL

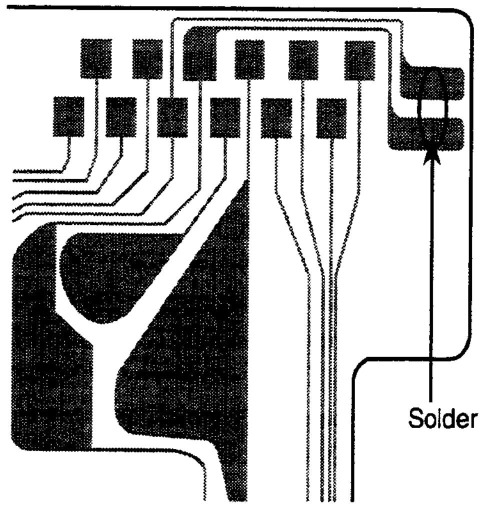
Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.

The CLASS 1 LASER PRODUCT label is located on the rear exterior.

CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

PICK – UP Assy P.C.B.



ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-017-745-019		IC,CXA1782BQ
	87-070-294-019		C-IC,CXD2508AQ
	87-070-305-019		IC,BA6897S
	87-001-982-019		IC,TA7291S
	87-017-888-089		IC,NJM4558MD
	86-NF9-620-010		IC,UPD780206GF-014-3BA
	87-A20-154-010		IC,SPS-444-1
	87-A20-264-010		IC,STK-419-150
	87-070-121-010		IC,HA12185
	87-070-232-010		IC,BA3834S
	87-017-375-080		C-IC,TC4094BF
	87-A20-355-010		IC,CXA1553P
	87-A20-107-010		IC,BA3836
	87-027-666-010		IC,TC4052BP
	87-A20-056-010		IC,BA3880S
	87-017-374-010		IC,TC4094BP
	87-017-888-080		C-IC,NJM4558MD
	87-A20-067-040		C-IC,M65849FP
	87-A20-437-010		C-IC,M62431FP
	87-070-127-110		IC,LC72131D
	87-017-022-080		C-IC,NJM2068M-D(T1)
	87-017-714-110		IC,LA1836L
	87-A20-312-010		IC,M62420SP
	87-020-454-010		IC,DN6851
TRANSISTOR			
	89-213-702-010		TR,2SB1370E
	87-026-609-080		TR,KTA1266GR
	87-A30-065-080		TR,2SC2785FE
	89-332-665-080		TR,2SC3266GR
	89-337-221-380		C-TR,2SC3722K(R/S/E)
	89-324-122-080		C-TR,2SC2412KR
	89-110-372-080		C-TR,2SA1037K(R)
	87-026-635-080		C-TR,UN2213
	89-327-125-080		C-TR,2SC2712GR
	87-026-239-080		C-TR,DTC114TK
	87-026-233-080		C-TR,DTA114TK
	87-026-211-080		C-TR,DTA114EK
	89-111-625-080		C-TR,2SA1162 GR
	87-026-213-080		C-TR,DTC114YK
	87-026-463-080		TR,2SA933S(RS)
	87-110-155-080		TR,2SA1015GR
	87-A30-047-080		TR,CSD655E
	89-421-722-389		TR,2SD2172V/W
	87-026-223-080		C-TR,DTC143TK
	89-320-011-080		TR,2SC2001K
	87-026-608-080		C-TR,DTC123JK
	89-333-266-080		C-TR,2SC3326B
	87-A30-066-080		TR,2SA1175FE
	89-109-705-080		TR,2SA970GR
	87-026-297-080		C-TR,DTA144TK
	87-026-226-080		C-TR,DTA143EK
	89-502-466-080		FET,2SK246BL
	89-112-965-080		TR,2SA1296GR
	87-026-228-080		C-TR,DTA124EK
	87-026-610-080		TR,KTC3198GR
	89-109-521-080		TR,2SA952K
	87-026-238-080		C-TR,DTC144WK
	87-026-214-080		TR,DTA114YS
	89-503-685-080		C-FET,2SK368GR
	89-327-143-080		C-TR,2SC2714O
	87-026-269-080		TR,DTA114ES<HE>
	89-110-373-080		C-TR,2SA1037K(S)<HE>
	89-421-141-280		C-TR,2SD2114KU<HE>
	89-505-434-540		C-FET,2SK543-TB(4/5)
DIODE			
	87-017-437-080		DIODE,1N4148M
	87-A40-224-010		DIODE,GBU8DL
	87-A40-115-060		DIODE,RS603M
	87-017-978-080		DIODE,1N4003
	87-020-027-080		C-DIODE,1SS184
	87-020-125-080		C-DIODE,1SS181
	87-A40-200-080		ZENER,UZL11L3
	87-A40-211-080		ZENER,UZ36BSA
	87-A40-207-080		ZENER,UZ11BSC
	87-A40-274-010		DIODE,FMB-G16L
	87-A40-199-080		ZENER,UZL6H2
	87-A40-202-080		ZENER,UZ5.1BSB
	87-020-331-080		C-DIODE,DAN202K
	87-020-465-080		DIODE,1SS133
	87-020-330-080		C-DIODE,DAP202K
	87-A40-198-080		ZENER,UZL6M1
	87-A40-197-080		ZENER,UZL6L1
	87-020-339-080		C-DIODE,1SS226
MAIN C.B			
C101	87-A10-231-090		CAP,E 3300-80
C102	87-A10-231-090		CAP,E 3300-80
C104	87-010-235-080		CAP,E 470-16 SME
C105	87-010-235-080		CAP,E 470-16 SME
C107	87-010-247-080		CAP,E 100-50 M SME
C108	87-010-247-080		CAP,E 100-50 M SME
C109	87-010-263-080		CAP,E 100-10 SME
C112	87-010-382-080		CAP,E 22-25 M SME
C113	87-010-403-080		CAP,E 3.3-50 M SME
C116	87-012-140-080		C-CAP,S 470P-50 J CH
C121	87-012-368-080		C-CAP,S 0.1-50 Z F
C122	87-012-368-080		C-CAP,S 0.1-50 Z F
C123	87-018-209-080		CAP,TC U 0.1-50 Z F UP050
C124	87-012-368-080		C-CAP,S 0.1-50 Z F
C125	87-010-263-080		CAP,E 100-10 SME<LH>
C145	87-010-186-080		C-CAP,S 4700P-50 K B
C146	87-010-186-080		C-CAP,S 4700P-50 K B
C152	87-010-260-080		CAP,E 47-25 SME
C171	87-A10-056-090		CAP,E 4700-35 M
C172	87-A10-056-090		CAP,E 4700-35 M
C173	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C174	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C175	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C176	87-015-785-080		C-CAP, 0.1-25 Z F
C220	87-010-194-080		C-CAP,S 0.047-25 Z F
C221	87-010-400-080		CAP,E 0.47-50 M SME
C222	87-010-400-080		CAP,E 0.47-50 M SME
C223	87-010-187-080		C-CAP,S 5600P-50 K B
C224	87-010-187-080		C-CAP,S 5600P-50 K B
C225	87-010-179-080		C-CAP,S 1200P-50 K B
C226	87-010-179-080		C-CAP,S 1200P-50 K B
C227	87-010-402-080		CAP,E 2.2-50 M SME
C228	87-010-402-080		CAP,E 2.2-50 M SME
C229	87-010-402-080		CAP,E 2.2-50 M SME
C230	87-010-402-080		CAP,E 2.2-50 M SME
C231	87-010-147-080		C-CAP,S 3P-50 C CH GRM
C232	87-018-098-080		CAP,TC U 3.3P-50 K SL UP050
C233	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C234	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C235	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C236	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C243	87-010-322-080		C-CAP,S 100P-50 J CH
C244	87-010-322-080		C-CAP,S 100P-50 J CH
C249	87-018-209-080		CAP,TC U 0.1-50 Z F UP050
C250	87-A10-200-080		CAP,E 10-100 M BP SME
C260	87-015-785-080		C-CAP, 0.1-25 Z F
C301	87-010-318-080		C-CAP,S 47P-50 J CH
C302	87-010-318-080		C-CAP,S 47P-50 J CH
C303	87-012-157-080		C-CAP,S 330P-50 J CH GRM

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C304	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C305	87-012-145-080		C-CAP,S 270P-50 J CH
C306	87-012-145-080		C-CAP,S 270P-50 J CH
C307	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C311	87-010-198-080		C-CAP,S 0.022-25 K B
C312	87-010-198-080		C-CAP,S 0.022-25 K B
C313	87-010-181-080		C-CAP,S 1800P-50 K B
C314	87-010-181-080		C-CAP,S 1800P-50 K B
C315	87-010-179-080		C-CAP,S 1200P-50 K B
C316	87-010-179-080		C-CAP,S 1200P-50 K B
C317	87-016-492-080		C-CAP,S 0.33-16 Z F
C318	87-016-492-080		C-CAP,S 0.33-16 Z F
C319	87-016-491-080		C-CAP,S 0.22-16 Z F C2021
C320	87-016-491-080		C-CAP,S 0.22-16 Z F C2021
C321	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C322	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C324	87-010-260-080		CAP,E 47-25 SME
C325	87-010-370-080		CAP,E 330-6.3 M SME
C326	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C330	87-010-405-080		CAP,E 10-50 M SME
C332	87-015-785-080		C-CAP, 0.1-25 Z F
C335	87-016-462-080		C-CAP,S 1-16 Z F
C336	87-016-462-080		C-CAP,S 1-16 Z F
C337	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C338	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C339	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C340	87-015-785-080		C-CAP, 0.1-25 Z F
C351	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C352	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C451	87-012-140-080		C-CAP,S 470P-50 J CH
C452	87-012-140-080		C-CAP,S 470P-50 J CH
C453	87-010-178-080		C-CAP,S 1000P-50 K B
C456	87-010-260-080		CAP,E 47-25 SME
C457	87-010-197-080		C-CAP,S 0.01-25 K B
C458	87-010-183-080		C-CAP,S 2700P-50 K B
C459	87-010-183-080		C-CAP,S 2700P-50 K B
C460	87-010-183-080		C-CAP,S 2700P-50 K B
C470	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C501	87-010-179-080		C-CAP,S 1200P-50 K B
C502	87-010-179-080		C-CAP,S 1200P-50 K B
C503	87-012-155-080		C-CAP,S 180P-50 J CH GRM
C504	87-012-155-080		C-CAP,S 180P-50 J CH GRM
C515	87-010-545-080		CAP,E 0.22-50 M SME
C516	87-010-545-080		CAP,E 0.22-50 M SME
C519	87-015-785-080		C-CAP, 0.1-25 Z F
C521	87-010-197-080		C-CAP,S 0.01-25 K B
C522	87-010-318-080		C-CAP,S 47P-50 J CH
C523	87-010-197-080		C-CAP,S 0.01-25 K B
C525	87-010-184-080		C-CAP,S 3300P-50 K B
C526	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C527	87-010-401-080		CAP,E 1-50 M SME
C528	87-010-401-080		CAP,E 1-50 M SME
C529	87-010-384-080		CAP,E 100-25 M SME
C530	87-010-197-080		C-CAP,S 0.01-25 K B
C531	87-010-183-080		C-CAP,S 2700P-50 K B
C532	87-010-194-080		C-CAP,S 0.047-25 Z F
C533	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C534	87-010-263-080		CAP,E 100-10 SME
C535	87-010-401-080		CAP,E 1-50 M SME
C536	87-010-401-080		CAP,E 1-50 M SME
C537	87-010-545-080		CAP,E 0.22-50 M SME
C538	87-012-142-080		C-CAP,S 0.33-16 Z F
C540	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C541	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C542	87-010-405-080		CAP,E 10-50 M SME
C543	87-010-546-080		CAP,E 0.33-50 SME
C544	87-010-546-080		CAP,E 0.33-50 SME
C545	87-010-400-080		CAP,E 0.47-50 M SME
C546	87-010-400-080		CAP,E 0.47-50 M SME
C547	87-015-883-080		C-CAP, 0.022-50 K B<LH>
C547	87-015-632-080		C-CAP,0.015-50 K B<HE>
C548	87-015-883-080		C-CAP, 0.022-50 K B<LH>
C548	87-015-632-080		C-CAP,0.015-50 K B<HE>
C553	87-015-627-080		C-CAP,1000P-50 K B
C554	87-015-627-080		C-CAP,1000P-50 K B
C557	87-010-178-080		C-CAP,S 1000P-50 K B
C558	87-010-178-080		C-CAP,S 1000P-50 K B
C597	87-010-404-080		CAP,E 4.7-50 M SME
C598	87-010-404-080		CAP,E 4.7-50 M SME
C601	87-010-178-080		C-CAP,S 1000P-50 K B
C602	87-010-178-080		C-CAP,S 1000P-50 K B
C603	87-010-405-080		CAP,E 10-50 M SME
C604	87-010-405-080		CAP,E 10-50 M SME
C605	87-010-260-080		CAP,E 47-25 SME
C606	87-010-101-080		CAP,E 220-16 SME
C607	87-010-188-080		C-CAP,S 6800P-50 K B
C608	87-010-188-080		C-CAP,S 6800P-50 K B
C609	87-018-127-080		CAP,TC U 470P-50 K B UP050
C610	87-018-127-080		CAP,TC U 470P-50 K B UP050
C611	87-010-197-080		C-CAP,S 0.01-25 K B
C612	87-010-197-080		C-CAP,S 0.01-25 K B
C613	87-010-195-080		C-CAP,S 0.068-25 Z F C2012
C614	87-010-195-080		C-CAP,S 0.068-25 Z F C2012
C615	87-010-404-080		CAP,E 4.7-50 M SME
C616	87-010-404-080		CAP,E 4.7-50 M SME
C617	87-010-404-080		CAP,E 4.7-50 M SME
C618	87-010-404-080		CAP,E 4.7-50 M SME
C641	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C642	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C701	87-010-381-080		CAP,E 330-16 SME
C702	87-010-404-080		CAP,E 4.7-50 M SME
C703	87-010-197-080		C-CAP,S 0.01-25 K B
C704	87-010-197-080		C-CAP,S 0.01-25 K B
C711	87-010-263-080		CAP,E 100-10 SME
C712	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C722	87-010-312-080		C-CAP,S 15P-50 J CH
C723	87-010-178-080		C-CAP,S 1000P-50 K B
C725	87-010-178-080		C-CAP,S 1000P-50 K B
C727	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C728	87-010-248-080		CAP,E 220-10 SME
C735	87-018-134-080		CAP,TC U 0.01-16 N Y UP050
C770	87-010-405-080		CAP,E 10-50 M SME
C771	87-010-405-080		CAP,E 10-50 M SME
C772	87-010-194-080		C-CAP,S 0.047-25 Z F
C773	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C774	87-010-263-080		CAP,E 100-10 SME
C775	87-010-405-080		CAP,E 10-50 M SME
C776	87-010-197-080		C-CAP,S 0.01-25 K B<LH>
C777	87-010-400-080		CAP,E 0.47-50 M SME
C778	87-010-401-080		CAP,E 1-50 M SME
C779	87-010-401-080		CAP,E 1-50 M SME
C780	87-010-197-080		C-CAP,S 0.01-25 K B
C781	87-010-405-080		CAP,E 10-50 M SME
C782	87-010-405-080		CAP,E 10-50 M SME
C785	87-010-197-080		C-CAP,S 0.01-25 K B
C786	87-010-197-080		C-CAP,S 0.01-25 K B
C787	87-010-184-080		C-CAP,S 3300P-50 K B
C788	87-010-184-080		C-CAP,S 3300P-50 K B
C789	87-010-179-080		C-CAP,S 1200P-50 K B
C790	87-010-179-080		C-CAP,S 1200P-50 K B
C791	87-010-401-080		CAP,E 1-50 M SME
C792	87-010-180-080		C-CAP,S 1500P-50 K B
C793	87-010-189-080		C-CAP,S 8200P-50 K B
C794	87-010-408-080		CAP,E 47-50 SME
C795	87-010-194-080		C-CAP,S 0.047-25 Z F
C796	87-010-403-080		CAP,E 3.3-50 M SME
C799	87-010-178-080		C-CAP,S 1000P-50 K B
C802	87-010-197-080		C-CAP,S 0.01-25 K B
C814	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C819	87-010-197-080		C-CAP,S 0.01-25 K B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C820	87-010-408-080		CAP,E 47-50 SME
C821	87-010-197-080		C-CAP,S 0.01-25 K B
C823	87-010-197-080		C-CAP,S 0.01-25 K B
C828	87-010-197-080		C-CAP,S 0.01-25 K B
C829	87-010-197-080		C-CAP,S 0.01-25 K B
C830	87-015-819-080		C-CAP,0.01-50 K B
C835	87-010-197-080		C-CAP,S 0.01-25 K B
C901	87-010-197-080		C-CAP,S 0.01-25 K B
C902	87-015-785-080		C-CAP, 0.1-25 Z F
C903	87-018-119-080		CAP,TC U 100P-50 K B UP050
C941	87-010-314-080		C-CAP,S 22P-50 J CH<HE>
C943	87-010-197-080		C-CAP,S 0.01-25 K B<HE>
C944	87-014-051-080		CAP,PP 560P-100 J<HE>
C945	87-010-197-080		C-CAP,S 0.01-25 K B<HE>
C946	87-010-401-080		CAP,E 1-50 M SME
C950	87-014-073-080		CAP,PP 4700P-100 J<HE>
C952	87-010-197-080		C-CAP,S 0.01-25 K B<HE>
C953	87-010-197-080		C-CAP,S 0.01-25 K B<HE>
C954	87-010-400-080		CAP,E 0.47-50 M SME<HE>
C956	87-010-263-080		CAP,E 100-10 SME<HE>
C960	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C961	87-010-152-080		C-CAP,S 8P-50 D CH<LH>
C987	87-018-134-080		CAP,TC U 0.01-16 N Y UP050
C990	87-010-197-080		C-CAP,S 0.01-25 K B
C993	87-018-134-080		CAP,TC U 0.01-16 N Y UP050
C995	87-010-197-080		C-CAP,S 0.01-25 K B
C999	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
CF801	87-008-261-010		FLTR,CFSFE10.7MA5
CF802	87-008-261-010		FLTR,CFSFE10.7MA5
FFE801	A8-6ZA-190-030		6ZA-1 YFEUNM
FR121	87-029-060-010		RES,FUSE 33-1/4W J
FR122	87-029-060-010		RES,FUSE 33-1/4W J
J252	87-099-678-010		JACK,6.3 BLK ST W/SW
J253	87-099-474-010		JACK,PIN 3P BLK W/SW
J254	87-A60-238-010		TERMINAL,SP 4P (MSC)
J652	87-099-625-010		JACK,PIN 4P BLK W/O SW
J801	87-A60-202-010		TERMINAL,ANT 4P MSP-154V-02
L101	87-003-383-010		COIL,1UH K
L102	87-003-383-010		COIL,1UH K
L403	87-A50-049-010		COIL,TRAP 85K(COI)
L404	87-A50-049-010		COIL,TRAP 85K(COI)
L451	87-007-342-010		COIL,OSC 85KHZ BIAS
L701	87-A50-027-010		COIL,1 POLE MPX(TOK)
L702	87-A50-027-010		COIL,1 POLE MPX(TOK)
L741	87-A50-015-010		COIL,FM DET (TOK)
L742	87-A90-051-010		FLTR, CFAZ-450 (TOK)<LH>
L742	87-A90-052-010		FLTR, CFMT-450A(TOK)<HE>
L743	87-005-564-080		C-COIL,2125 2.2UH K MLF2012
L770	87-003-102-080		COIL,10UH K LAL02
L832	87-005-847-080		COIL,2.2UH K CECS
L941	87-A50-022-010		COIL,ANT SW (COI) 7.96MHZ<HE>
L942	87-A50-021-010		COIL,OSC SW (COI) 15MHZ<HE>
L943	87-005-372-080		COIL,1MH K LAL03<HE>
L944	87-003-131-080		COIL,10MH J EL0607<HE>
L981	86-NF4-665-010		COIL,AM PACK 1(TOK)<LH>
L981	86-NF4-666-010		COIL,AM PACK 3(TOK)<HE>
⚠ PR113	87-026-681-080		PROTECTOR,5A 491SERIES 60V
⚠ PR114	87-026-681-080		PROTECTOR,5A 491SERIES 60V
RY101	87-045-389-010		RELAY,12V OSA-SS-212DM5
RY102	87-045-382-010		RELAY,12V OUAZ-SH-112L
SFR301	87-024-355-080		SFR,33K H EVN DJAA03
SFR302	87-024-355-080		SFR,33K H EVN DJAA03
SFR303	87-024-355-080		SFR,33K H EVN DJAA03
SFR304	87-024-355-080		SFR,33K H EVN DJAA03
SFR305	87-024-356-080		SFR,47K H EVN DJAA03
SFR306	87-024-356-080		SFR,47K H EVN DJAA03
SFR451	87-024-356-080		SFR,47K H EVN DJAA03
SFR452	87-024-356-080		SFR,47K H EVN DJAA03
SFR722	87-024-352-080		SFR,4.7K H EVN DJAA03
TC701	87-011-253-080		TRIMMER,CER 30P 4.0X4.5 ECRLA

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
TC941	87-011-220-080		TRIMMER,CER 20P 6.15X5.9 VCT51<HE>
TC942	87-011-221-080		TRIMMER,CER 30P 6.15X5.9 VCT51<HE>
TH241	87-A90-157-080		C-THMS,4.7K<HE>
VR651	87-A90-153-010		VR,RTRY 50KBX2 V
W101	86-NF9-651-010		F-CABLE,7P 2.5 (NF9)
X703	84-508-618-010		VIB,CER CSB 456 F15
X721	86-NFZ-651-010		VIB,XTAL 4.500MHZ CSA-309
X722	87-030-354-010		VIB,CER 450.0KHZ BFU C<HE>

FRONT C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C201	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C202	87-012-156-080		C-CAP,S 220P-50 J CH GRM
C203	87-010-263-040		CAP,E 100-10 M SME
C204	87-010-494-040		CAP,E 1-50 5L SRE
C205	87-010-494-040		CAP,E 1-50 5L SRE
C206	87-010-550-040		CAP,E 100-6.3 5L SRE
C207	87-010-550-040		CAP,E 100-6.3 5L SRE
C208	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C209	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C210	87-010-314-080		C-CAP,S 22P-50 J CH
C211	87-010-154-080		C-CAP,S 10P-50 D CH
C212	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C213	87-010-178-080		C-CAP,S 1000P-50 K B
C214	87-010-112-040		CAP,E 100-16 SME
C215	87-010-322-080		C-CAP,S 100P-50 J CH
C216	87-010-560-040		CAP,E 10-50 M 5L MA
C351	87-010-497-040		CAP,E 4.7-35 5L SRE
C352	87-010-497-040		CAP,E 4.7-35 5L SRE
C353	87-010-981-040		CAP,E 22-35 M 5L SRE
C381	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C382	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C383	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C384	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C385	87-010-322-080		C-CAP,S 100P-50 J CH
C386	87-010-400-040		CAP,E 0.47-50 SME
C387	87-010-400-040		CAP,E 0.47-50 SME
C389	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C401	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C402	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C601	87-010-405-040		CAP,E 10-50 M SME
C602	87-010-176-080		C-CAP,S 680P-50 J SL
C603	87-010-186-080		C-CAP,S 4700P-50 K B
C604	87-010-322-080		C-CAP,S 100P-50 J CH
C605	87-010-321-080		C-CAP,S 82P-50 J CH
C606	87-010-401-040		CAP,E 1-50 M SME
C607	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C608	87-010-322-080		C-CAP,S 100P-50 J CH
C609	87-010-491-040		CAP,E 0.22-50 5L SRE
C610	87-010-177-080		C-CAP,S 820P-50 J SL
C611	87-010-406-040		CAP,E 22-50 M SME
C612	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C614	87-A10-189-040		CAP,E 220-10 M
C615	87-010-498-040		CAP,E 10-16 M 5L SRE
C619	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C620	87-010-197-080		C-CAP,S 0.01-25 K B
C622	87-010-194-080		C-CAP,S 0.047-25 Z F
C650	87-010-319-080		C-CAP,S 56P-50 J CH
C651	87-010-319-080		C-CAP,S 56P-50 J CH
C652	87-010-404-040		CAP,E 4.7-50 SME
C654	87-010-178-080		C-CAP,S 1000P-50 K B
C655	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C656	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C657	87-010-263-040		CAP,E 100-10 M SME
C658	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C659	87-010-184-080		C-CAP,S 3300P-50 K B
C660	87-010-426-080		C-CAP,S 0.012-25 K B
C663	87-010-263-040		CAP,E 100-10 M SME
C664	87-012-141-080		C-CAP,S 0.22-16 Z F
C667	87-018-130-080		CAP,TC U 820P-50 K B UP050

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C668	87-010-180-080		C-CAP,S 1500P-50 K B
C669	87-010-404-040		CAP,E 4.7-50 SME
C670	87-010-404-040		CAP,E 4.7-50 SME
C671	87-010-188-080		C-CAP,S 6800P-50 K B
C672	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C701	87-010-421-040		CAP,E 4.7-50 M 5L SRE
C702	87-010-112-040		CAP,E 100-16 SME
C705	87-010-493-040		CAP,E 0.47-50 M 5L SRE
C706	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C707	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C708	87-010-400-040		CAP,E 0.47-50 SME
C709	87-010-192-080		C-CAP,S 0.022-50 Z F C2012
C710	87-010-400-040		CAP,E 0.47-50 SME
C711	87-010-190-080		C-CAP,S 0.01-50 Z F C2012
C712	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C713	87-010-185-080		C-CAP,S 3900P-50 K B
C714	87-010-194-080		C-CAP,S 0.047-25 Z F
C715	87-010-181-080		C-CAP,S 1800P-50 K B
C716	87-010-192-080		C-CAP,S 0.022-50 Z F C2012
C717	87-010-176-080		C-CAP,S 680P-50 J SL
C718	87-010-188-080		C-CAP,S 6800P-50 K B
C719	87-012-145-080		C-CAP,S 270P-50 J CH
C720	87-010-183-080		C-CAP,S 2700P-50 K B
C721	87-010-402-040		CAP,E 2.2-50 SME
C722	87-010-495-040		CAP,E 2.2-50 5L SRE
C723	87-010-378-040		CAP,E 10-16 M SME
C724	87-010-192-080		C-CAP,S 0.022-50 Z F C2012
C725	87-010-493-040		CAP,E 0.47-50 M 5L SRE
C726	87-010-190-080		C-CAP,S 0.01-50 Z F C2012
C727	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C728	87-010-185-080		C-CAP,S 3900P-50 K B
C729	87-010-194-080		C-CAP,S 0.047-25 Z F
C730	87-010-181-080		C-CAP,S 1800P-50 K B
C731	87-010-192-080		C-CAP,S 0.022-50 Z F C2012
C732	87-010-176-080		C-CAP,S 680P-50 J SL
C733	87-010-188-080		C-CAP,S 6800P-50 K B
C734	87-012-145-080		C-CAP,S 270P-50 J CH
C735	87-010-183-080		C-CAP,S 2700P-50 K B
C751	87-010-322-080		C-CAP,S 100P-50 J CH
C752	87-010-322-080		C-CAP,S 100P-50 J CH
C753	87-010-493-049		CAP,E 0.47-50 M SL SRE
C754	87-010-493-049		CAP,E 0.47-50 M SL SRE
C801	87-010-197-080		C-CAP,S 0.01-25 K B
C802	87-010-178-080		C-CAP,S 1000P-50 K B
C803	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C804	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C805	87-010-805-080		C-CAP,S 1-16 Z F
C806	87-010-805-080		C-CAP,S 1-16 Z F
C807	87-010-561-040		CAP,E 100-16 M 5L SRE
C808	87-A10-189-040		CAP,E 220-10 M
C809	87-010-491-040		CAP,E 0.22-50 5L SRE
C810	87-010-491-040		CAP,E 0.22-50 5L SRE
C811	87-010-495-040		CAP,E 2.2-50 5L SRE
C813	87-010-560-040		CAP,E 10-50 M 5L MA
C814	87-010-405-040		CAP,E 10-50 M SME
C815	87-010-322-080		C-CAP,S 100P-50 J CH
C816	87-010-322-080		C-CAP,S 100P-50 J CH
C817	87-012-142-080		C-CAP,S 0.33-16 Z F
FB601	87-008-372-080		FLTR,EMIBL01 RN1
FFC102	87-A80-054-010		FF-CABLE,4P 1.25 70MM
FFC104	87-A80-052-010		FF-CABLE,14P 1.25 280MM
FFC106	88-921-081-110		FF-CABLE,21P 1.25
FFC301	87-A80-053-010		FF-CABLE,8P 1.25 300MM
FFC501	88-915-161-110		FF-CABLE,15P 1.25
FL301	86-NF9-653-010		FL,BJ539GK
FL302	86-NF9-616-010		FL,BJ504GK
J601	87-A60-284-010		JACK,3.5MO (MSC)
J621	87-A60-284-010		JACK,3.5MO (MSC)
L201	87-A50-158-010		COIL,CLOCK 4.19MHZ (NF9)
L650	87-005-738-080		COIL,47UH J SP02

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
LED401	87-070-281-080		LED,SLZ-736A-25H-S-T1 P-GRN
LED402	87-070-281-080		LED,SLZ-736A-25H-S-T1 P-GRN
LED403	87-070-281-080		LED,SLZ-736A-25H-S-T1 P-GRN
LED404	87-070-281-080		LED,SLZ-736A-25H-S-T1 P-GRN
LED405	87-070-281-080		LED,SLZ-736A-25H-S-T1 P-GRN
LED406	87-070-281-080		LED,SLZ-736A-25H-S-T1 P-GRN
LED407	87-017-979-010		LED,SEL2413E GRN
LED408	87-017-979-010		LED,SEL2413E GRN
LED409	87-017-979-010		LED,SEL2413E GRN
LED410	87-017-979-010		LED,SEL2413E GRN
LED411	87-017-979-010		LED,SEL2413E GRN
LED412	87-017-979-010		LED,SEL2413E GRN
LED413	87-017-979-010		LED,SEL2413E GRN
LED414	87-017-979-010		LED,SEL2413E GRN
LED420	87-A40-259-080		LED,SLR-342VCT31 RED
LED421	87-A40-259-080		LED,SLR-342VCT31 RED
LED422	87-A40-259-080		LED,SLR-342VCT31 RED
LED423	87-A40-259-080		LED,SLR-342VCT31 RED
LED425	87-070-278-010		LED,SLZ-738A-24S PGRN
LED426	87-070-278-010		LED,SLZ-738A-24S PGRN
LED427	87-070-290-010		LED,SLZ-936C-30-S RED
LED428	87-070-290-010		LED,SLZ-936C-30-S RED
LED429	87-070-278-010		LED,SLZ-738A-24S PGRN
LED430	87-070-278-010		LED,SLZ-738A-24S PGRN
S301	87-A90-095-080		SW,TACT EVQ11G04M
S302	87-A90-095-080		SW,TACT EVQ11G04M
S303	87-A90-095-080		SW,TACT EVQ11G04M
S304	87-A90-095-080		SW,TACT EVQ11G04M
S305	87-A90-095-080		SW,TACT EVQ11G04M
S306	87-A90-095-080		SW,TACT EVQ11G04M
S307	87-A90-095-080		SW,TACT EVQ11G04M
S308	87-A90-095-080		SW,TACT EVQ11G04M
S309	87-A90-095-080		SW,TACT EVQ11G04M
S310	87-A90-095-080		SW,TACT EVQ11G04M
S311	87-A90-095-080		SW,TACT EVQ11G04M
S312	87-A90-095-080		SW,TACT EVQ11G04M
S313	87-A90-095-080		SW,TACT EVQ11G04M
S314	87-A90-095-080		SW,TACT EVQ11G04M
S315	87-A90-095-080		SW,TACT EVQ11G04M
S316	87-A90-095-080		SW,TACT EVQ11G04M
S317	87-A90-095-080		SW,TACT EVQ11G04M
S318	87-A90-095-080		SW,TACT EVQ11G04M
S319	87-A90-095-080		SW,TACT EVQ11G04M
S320	87-A90-095-080		SW,TACT EVQ11G04M
S321	87-A90-095-080		SW,TACT EVQ11G04M
S326	87-A90-095-080		SW,TACT EVQ11G04M
S327	87-A90-095-080		SW,TACT EVQ11G04M
S328	87-A90-095-080		SW,TACT EVQ11G04M
S329	87-A90-095-080		SW,TACT EVQ11G04M
S330	87-A90-095-080		SW,TACT EVQ11G04M
S331	87-A90-095-080		SW,TACT EVQ11G04M
S332	87-A90-095-080		SW,TACT EVQ11G04M
S333	87-A90-095-080		SW,TACT EVQ11G04M
S334	87-A90-095-080		SW,TACT EVQ11G04M
S335	87-A90-095-080		SW,TACT EVQ11G04M
S336	87-A90-095-080		SW,TACT EVQ11G04M
S338	87-A90-095-080		SW,TACT EVQ11G04M
S339	87-A90-095-080		SW,TACT EVQ11G04M
SW251	87-A90-392-010		SW,RTRY EC16B24304-20 NON
VR601	86-NFA-607-010		VR,RTRY 10K15AX1 1 V XV0121PVN

CD SW C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
LED451	87-017-979-010		LED,SEL2413E GRN
LED452	87-017-979-010		LED,SEL2413E GRN
LED453	87-017-979-010		LED,SEL2413E GRN
LED454	87-017-979-010		LED,SEL2413E GRN
LED455	87-017-979-010		LED,SEL2413E GRN
LED456	87-017-979-010		LED,SEL2413E GRN
LED457	87-017-979-010		LED,SEL2413E GRN

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
LED458	87-017-979-010		LED,SEL2413E GRN
LED459	87-017-979-010		LED,SEL2413E GRN
LED460	87-017-979-010		LED,SEL2413E GRN
S451	87-A90-095-080		SW,TACT EVQ11G04M
S452	87-A90-095-080		SW,TACT EVQ11G04M
S453	87-A90-095-080		SW,TACT EVQ11G04M
S454	87-A90-095-080		SW,TACT EVQ11G04M
S455	87-A90-095-080		SW,TACT EVQ11G04M
S456	87-A90-095-080		SW,TACT EVQ11G04M
S457	87-A90-095-080		SW,TACT EVQ11G04M

VR C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
SW252	87-A90-340-010		SW,RTRY EC16B24204-15

AC2 C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
⚠ PR101	87-026-682-080		PROTECTOR,10A 491SERIES 60V
⚠ PR102	87-026-682-080		PROTECTOR,10A 491SERIES 60V

PT C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
⚠	82-304-743-010		TERMINAL,1P
⚠ F109	87-035-368-010		FUSE,4A,250V T
⚠ F110	87-035-368-010		FUSE,4A,250V T
⚠ FC101	87-033-213-080		FUSE CLAMP,PFI5000
⚠ FC102	87-033-213-080		FUSE CLAMP,PFI5000
⚠ FC103	87-033-213-080		FUSE CLAMP,PFI5000
⚠ FC104	87-033-213-080		FUSE CLAMP,PFI5000
⚠ PT001	86-NF9-630-010		PT,6NF-9H<HE>
⚠ PT001	86-NF9-631-010		PT,6NF-9LH<LH>
⚠ SW101	87-A90-165-010		SW,SL 1-2-3 SWS2301

CD MAIN C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
	86-ZG1-605-019		CABLE,FFC 16P
	86-ZG1-608-019		CABLE,FFC 8P
C11	87-010-182-089		C-CAP,S 2200P-50 B
C12	87-016-081-089		C-CAP,S 0.1-16 RK
C13	87-016-081-089		C-CAP,S 0.1-16 RK
C14	87-016-081-089		C-CAP,S 0.1-16 RK
C15	87-010-404-049		CAP,E 4.7-50 SME
C16	87-016-081-089		C-CAP,S 0.1-16 RK
C17	87-010-197-089		C-CAP,S 0.01-25 B
C18	87-010-402-049		CAP,E 2.2-50 SME
C19	87-010-382-049		CAP,E 22-25 SME
C20	87-010-213-089		C-CAP,S 0.015-25 B
C21	87-010-197-089		C-CAP,S 0.01-25 B
C22	87-010-263-049		CAP,E 100-10 SME
C23	87-010-197-089		C-CAP,S 0.01-25 B
C24	87-016-369-089		C-CAP,S 0.033-25 B K
C25	87-010-197-089		C-CAP,S 0.01-25 B
C26	87-016-369-089		C-CAP,S 0.033-25 B K
C27	87-010-197-089		C-CAP,S 0.01-25 B
C28	87-010-146-029		C-CAP,S 2P-50 C CH GRM
C29	87-010-154-089		C-CAP,S 10P-50 D CH
C30	87-010-263-049		CAP,E 100-10 SME
C31	87-010-178-089		C-CAP,S 1000P-50 B
C32	87-010-198-089		C-CAP,S 0.022-25 B
C33	87-016-081-089		C-CAP,S 0.1-16 RK
C34	87-010-197-089		C-CAP,S 0.01-25 B
C35	87-010-263-049		CAP,E 100-10 SME
C36	87-015-677-049		CAP,E 100-6.3 7L
C37	87-010-197-089		C-CAP,S 0.01-25 B
C38	87-010-260-089		CAP,E 47-25 SME
C39	87-010-196-089		C-CAP,S 0.1-25 F
C91	87-010-263-049		CAP,E 100-10 SME
C101	87-010-596-089		C-CAP,S 0.047-16 RK
C102	87-010-188-089		C-CAP,S 6800P-50 B
C103	87-018-133-089		CAP,TC-U 4700P-16 NX
C104	87-012-156-089		C-CAP,S 220P-50 CH
C105	87-010-404-049		CAP,E 4.7-50 SME
C106	87-010-263-049		CAP,E 100-10 SME
C107	87-010-197-089		C-CAP,S 0.01-25 B
C108	87-016-526-089		C-CAP,S 0.47-16 BK
C109	87-010-197-089		C-CAP,S 0.01-25 B
C112	87-010-318-089		C-CAP,S 47P-50 CH
C113	87-010-263-089		CAP,E 100-10 SME 5X11
C114	87-010-197-089		C-CAP,S 0.01-25 B
C115	87-010-318-089		C-CAP,S 47P-50 CH
C116	87-010-318-089		C-CAP,S 47P-50 CH
C117	87-010-197-089		C-CAP,S 0.01-25 B
C122	87-010-186-089		C-CAP,S 4700P-50 B
C123	87-010-382-049		CAP,E 22-25 SME
C201	87-010-318-089		C-CAP,S 47P-50 CH
C202	87-010-318-089		C-CAP,S 47P-50 CH
C203	87-010-321-089		C-CAP,S 82P-50 CH
C204	87-010-321-089		C-CAP,S 82P-50 CH
C205	87-010-321-089		C-CAP,S 82P-50 CH
C206	87-010-321-089		C-CAP,S 82P-50 CH
C207	87-012-153-089		C-CAP,S 120P-50 CH
C208	87-012-153-089		C-CAP,S 120P-50 CH
C209	87-012-153-089		C-CAP,S 120P-50 CH
C210	87-012-153-089		C-CAP,S 120P-50 CH
C211	87-010-403-049		CAP,E 3.3-50 SME
C212	87-010-403-089		CAP,E 3.3-50 SME
C213	87-010-186-089		C-CAP,S 4700P-50 B
C214	87-010-186-089		C-CAP,S 4700P-50 B
C231	87-016-251-049		CAP,E 220-16 SMG
C232	87-010-263-089		CAP,E 100-10 SME 5X11
C301	87-010-196-089		C-CAP,S 0.1-25 F
C302	87-010-260-089		CAP,E 47-25 SME
C401	87-010-403-089		CAP,E 3.3-50 SME
C402	87-010-403-049		CAP,E 3.3-50 SME
C501	87-016-459-049		CAP,E 470-10 SMG
C502	87-010-197-089		C-CAP,S 0.01-25 B
C503	87-010-263-049		CAP,E 100-10 SME
C504	87-010-196-089		C-CAP,S 0.1-25 F
C505	87-010-196-089		C-CAP,S 0.1-25 F
C506	87-010-196-089		C-CAP,S 0.1-25 F
C507	87-010-196-089		C-CAP,S 0.1-25 F
C508	87-016-459-049		CAP,E 470-10 SMG
C509	87-010-196-089		C-CAP,S 0.1-25 F
C510	87-010-196-089		C-CAP,S 0.1-25 F
C601	87-010-196-089		C-CAP,S 0.1-25 F
C602	87-016-251-049		CAP,E 220-16 SMG
C603	87-010-196-089		C-CAP,S 0.1-25 F
C701	87-010-322-089		C-CAP,S 100P-50 CH
C702	87-010-318-089		C-CAP,S 47P-50 CH
C703	87-010-318-089		C-CAP,S 47P-50 CH
C705	87-010-178-089		C-CAP,S 1000P-50 B
C706	87-010-178-089		C-CAP,S 1000P-50 B
C901	87-010-260-049		CAP,E 47-25 SME
C902	87-010-196-089		C-CAP,S 0.1-25 F
L11	87-003-102-089		COIL,10UH K LAL02
LED901	87-A40-123-019		LED,SLZ-8128A-01-B
M601	87-045-305-019		MOTOR,RF-500TB
R36	87-022-365-089		C-RES,S 100K-1/10W F
R37	87-022-363-089		C-RES,S 68K-1/10W F
R38	87-022-363-089		C-RES,S 68K-1/10W F
R39	87-022-363-089		C-RES,S 68K-1/10W F
R40	87-022-363-089		C-RES,S 68K-1/10W F
R41	87-022-365-089		C-RES,S 100K-1/10W F
SFR11	87-024-175-089		SFR,47K DIA6V
SFR12	87-024-173-089		SFR,22K HRH0638C
SFR13	87-024-176-089		SFR,100K DIA6V
SW601	87-036-109-019		SW,PUSH SPPB 61
SW602	87-036-109-019		SW,PUSH SPPB 61
SW603	87-036-109-019		SW,PUSH SPPB 61
W604	88-906-261-110		FF-CABLE 6P 1.25 260MM

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
X101	87-030-402-089		VIB,XTAL 16.9344MHZ

LED C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
LED701	87-017-733-080		LED,SEL1250SM
LED702	87-017-350-080		LED,SEL1550CM
LED703	87-017-733-080		LED,SEL1250SM

T-T C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C411	87-018-214-089		CAP,TC U 0.1-50
LED411	87-070-288-019		LED,GL380
M401	87-A90-036-019		MOT ASSY,RF-300CA-11
PS401	87-A90-156-019		SNSR,SG-240
Q411	87-A30-031-019		P-TR,PT380F
SW401	87-036-109-019		SW,PUSH SPPB61

CD MOTOR C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
SW1	87-036-340-019		SW,LEAF LSA-1121
M20	87-045-358-019		MOT,RF-310TA 43
M21	87-045-356-019		MOT,RF-310TA 30

DECK C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
CON502	82-ZM1-625-019		RBN,CORD,4P-55
SFR1	87-024-581-089		SFR,3.3K DIA 6H
SOL1	82-ZM1-618-010		SOL ASSY, 27
SOL2	82-ZM1-618-010		SOL ASSY, 27
SW1	87-036-378-010		SW, PUSH 1-1-1 SH2
SW2	87-036-378-010		SW, PUSH 1-1-1 SH2
SW3	87-036-378-010		SW, PUSH 1-1-1 SH2
SW4	87-036-378-010		SW, PUSH 1-1-1 SH2
SW5	87-036-378-010		SW, PUSH 1-1-1 SH2
SW6	87-036-378-019		SW, PUSH 1-1-1 SH2
SW8	87-036-378-019		SW, PUSH 1-1-1 SH2
W502	87-099-756-019		CONN, 15P 9604 S F

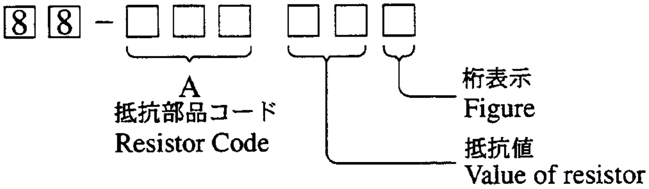
HEAD-1 C.B

HEAD-2 C.B

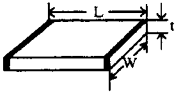
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
CON351	86-NF5-618-110		CONN ASSY,8P RPB

Oチップ抵抗部品コード／CHIP RESISTOR PART CODE

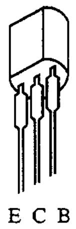
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード　：A Resistor Code：A
				外形／Form	L	W	t	
1/16W	1608	±5%	CJ		1.6	0.8	0.45	108
1/10W	2125	±5%	CJ		2	1.25	0.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION



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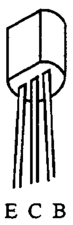
2SC3266GR
2SD2172V/W
KTA1266GR
KTC3198GR



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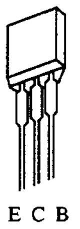
2SD655E
CSD655E
2SA970GR
2SA1015GR
2SC2001K



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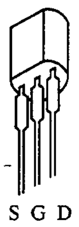
DTA114ES
2SA933S
2SA1175
2SC2785



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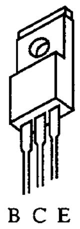

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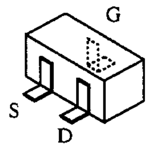

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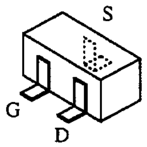

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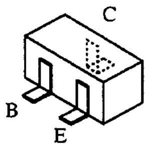
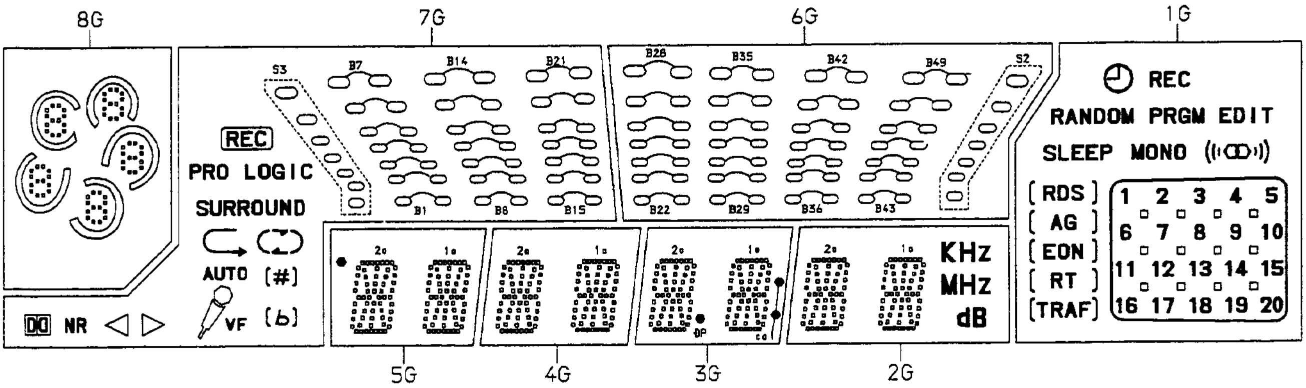


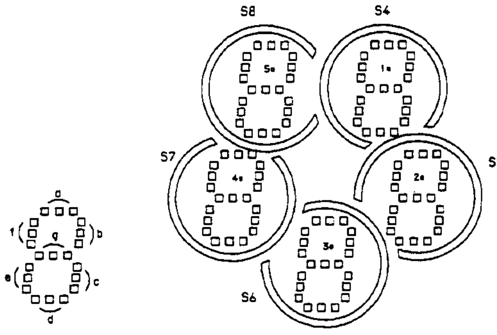
2SA1037
2SA1162
2SC2412
2SC2712
2SC2714
2SC3326
2SC3722
2SD2114
DTA114EK
DTA114TK

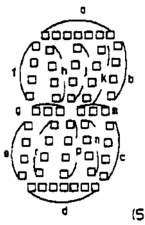
DTA124EK
DTA143EK
DTA144TK
DTC114TK
DTC114YK
DTC123JK
DTC143TK
DTC144WK
UN2213

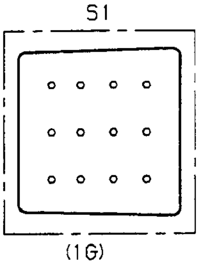
FL GRID ASSIGNMENT & ANODE CONNECTION

FL, BJ539GK
GRID ASSIGNMENT


8G
7G
6G
1G
S3
B7
B14
B21
B28
B35
B42
B49
S2
REC
PRO LOGIC
SURROUND
AUTO
(#)
VF
(b)
DD
NR
B1
B8
B15
B22
B29
B36
B43
REC
RANDOM PRGM EDIT
SLEEP MONO
[RDS]
[AG]
[EON]
[RT]
[TRAF]
1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
16 17 18 19 20
KHz
MHz
dB
DP
col
5G
4G
3G
2G


S8
S4
S7
S5
S6
a
b
c
d
e
f
g
(8G)


a
b
c
d
e
f
g
h
k
n
p
(5G ~2G)



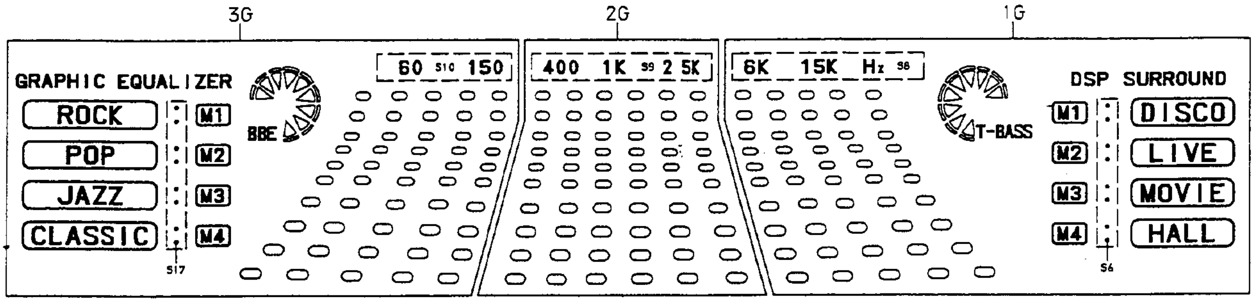
(1G)

ANODE CONNECTION

	8G	7G	6G	5G	4G	3G	2G	1G
P1	5a	—	—	—	—	—	—	**REC**
P2	5b	**DD**	—	—	—	—	—	🕒
P3	5f	**NR**	—	—	—	—	—	**EDIT**
P4	5g	◁	—	—	—	—	—	**AI**
P5	5c	▷	—	—	—	—	—	**PRGM**
P6	5e	**VF**	—	—	—	—	—	**MONO**
P7	5d	**REC**	—	—	—	—	—	**RANDOM**
P8	S8	S3	S2	—	—	—	—	**SLEEP**
P9	S6	)	—	○	—	—	—	((ıꝏı))
P10	3d	⇄	—	2a	2a	2a	2a	**RDS**
P11	3e	(	—	2h	2h	2h	2h	( ) (RDS)
P12	3c	↪	—	2j	2j	2j	2j	**AG**
P13	3g	[(#)]	B22	2k	2k	2k	2k	( ) (AG)
P14	3f	B1	B29	2f	2f	2f	2f	**EON**
P15	3b	B8	B36	2b	2b	2b	2b	( ) (EON)
P16	3a	B15	B43	2m	2m	2m	2m	**RT**
P17	S5	♯	B23	2g	2g	2g	2g	( ) (RT)
P18	2d	B2	B30	2c	2c	2c	2c	**TRAF**
P19	2e	B9	B37	2e	2e	2e	2e	( ) (TRAF)
P20	2c	B16	B44	2r	2r	2r	2r	**1**

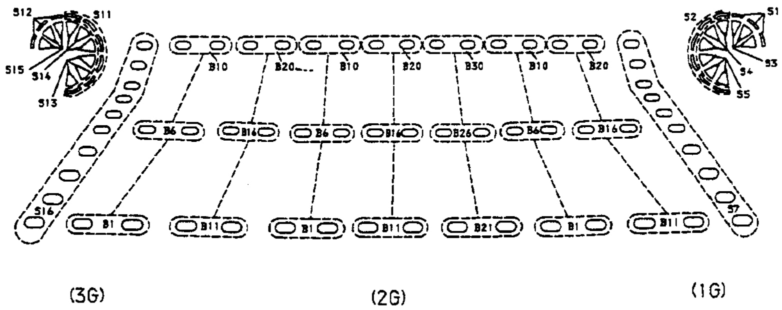
	8G	7G	6G	5G	4G	3G	2G	1G
P21	2g	**AUTO**	B24	2p	2p	2p	2p	**2**
P22	2f	B3	B31	2n	2n	2n	2n	**3**
P23	2b	B10	B38	2d	2d	2d	2d	**4**
P24	2a	B17	B45	—	—	col (UP)	**KHz**	**5**
P25	S7	**SURROUND**	B25	—	—	col (DOWN)	**MHz**	**6**
P26	4d	B4	B32	—	—	DP	**dB**	**7**
P27	4e	B11	B39	1a	1a	1a	1a	**8**
P28	4c	B18	B46	1h	1h	1h	1h	**9**
P29	4g	**PRO LOGIC**	B26	1j	1j	1j	1j	**10**
P30	4f	B5	B33	1k	1k	1k	1k	**11**
P31	4b	B12	B40	1f	1f	1f	1f	**12**
P32	4a	B19	B47	1b	1b	1b	1b	**13**
P33	S4	[(b)]	B27	1m	1m	1m	1m	**14**
P34	1d	B6	B34	1g	1g	1g	1g	**15**
P35	1e	B13	B41	1c	1c	1c	1c	**16**
P36	1c	B20	B48	1e	1e	1e	1e	**17**
P37	1g	♭	B28	1r	1r	1r	1r	**18**
P38	1f	B7	B35	1p	1p	1p	1p	**19**
P39	1b	B14	B42	1n	1n	1n	1n	**20**
P40	1a	B21	B49	1d	1d	1d	1d	S1

FL, BJ504GK
GRID ASSIGNMENT



3G
2G
1G
GRAPHIC EQUALIZER
ROCK
POP
JAZZ
CLASSIC
M1
M2
M3
M4
S17
BBE
60 S10 150
400 1K S9 2.5K
6K 15K Hz S8
T-BASS
DSP SURROUND
M1
M2
M3
M4
DISCO
LIVE
MOVIE
HALL
S6

SEGMENT DESIGNATION



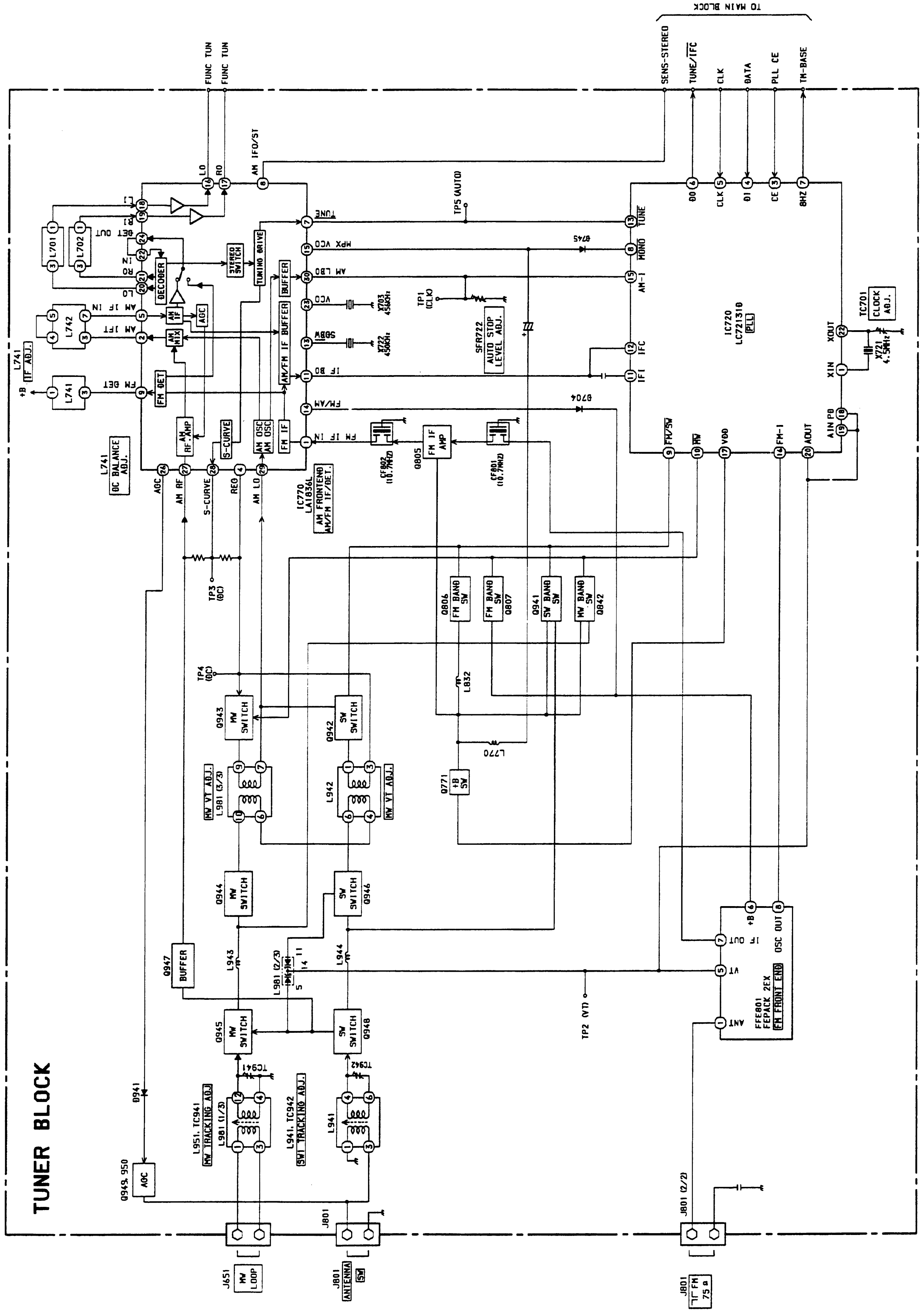
S12
S11
S15
S14
S13
S16
B10
B20
B10
B20
B30
B10
B20
B6
B16
B6
B16
B26
B6
B16
B1
B11
B1
B11
B21
B1
B11
S2
S1
S3
S4
S5
S7
(3G)
(2G)
(1G)

ANODE CONNECTION

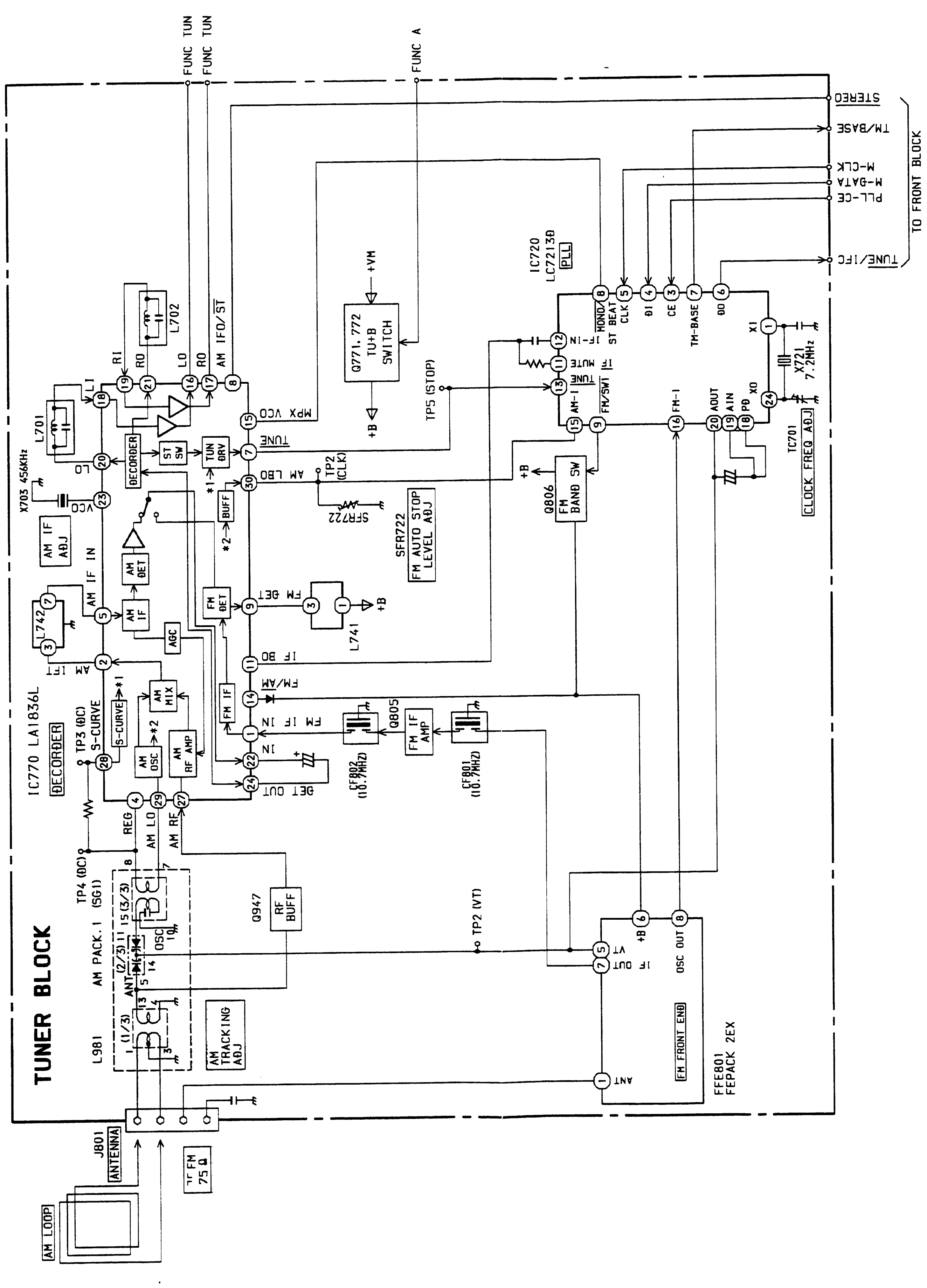
	3G	2G	1G
P1	**GRAPHIC EQUALIZER**	—	**DSP SURROUND**
P2	**ROCK** **POP** **JAZZ** **CLASSIC**	—	**DISCO** **LIVE** **MOVIE** **HALL**
P3	**(ROCK)**	—	**(DISCO)**
P4	**(POP)**	—	**(LIVE)**
P5	**(JAZZ)**	—	**(MOVIE)**
P6	**(CLASSIC)**	—	**(HALL)**
P7	S10	S9	S8
P8	**M1 M3** **M2 M4**	—	**M1 M3** **M2 M4**
P9	▭ (M1)	—	▭ (M1)
P10	▭ (M2)	—	▭ (M2)
P11	▭ (M3)	B30	▭ (M3)
P12	▭ (M4)	B29	▭ (M4)
P13	S11	B28	S1
P14	S12	B27	S2
P15	S13	B26	S3
P16	S14	B25	S4
P17	S15	B24	S5
P18	**BBE**	B23	**T-BASS**
P19	S16	B22	S7
P20	S17	B21	S8

	3G	2G	1G
P21	B20	B20	B20
P22	B19	B19	B19
P23	B18	B18	B18
P24	B17	B17	B17
P25	B16	B16	B16
P26	B15	B15	B15
P27	B14	B14	B14
P28	B13	B13	B13
P29	B12	B12	B12
P30	B11	B11	B11
P31	B10	B10	B10
P32	B9	B9	B9
P33	B8	B8	B8
P34	B7	B7	B7
P35	B6	B6	B6
P36	B5	B5	B5
P37	B4	B4	B4
P38	B3	B3	B3
P39	B2	B2	B2
P40	B1	B1	B1

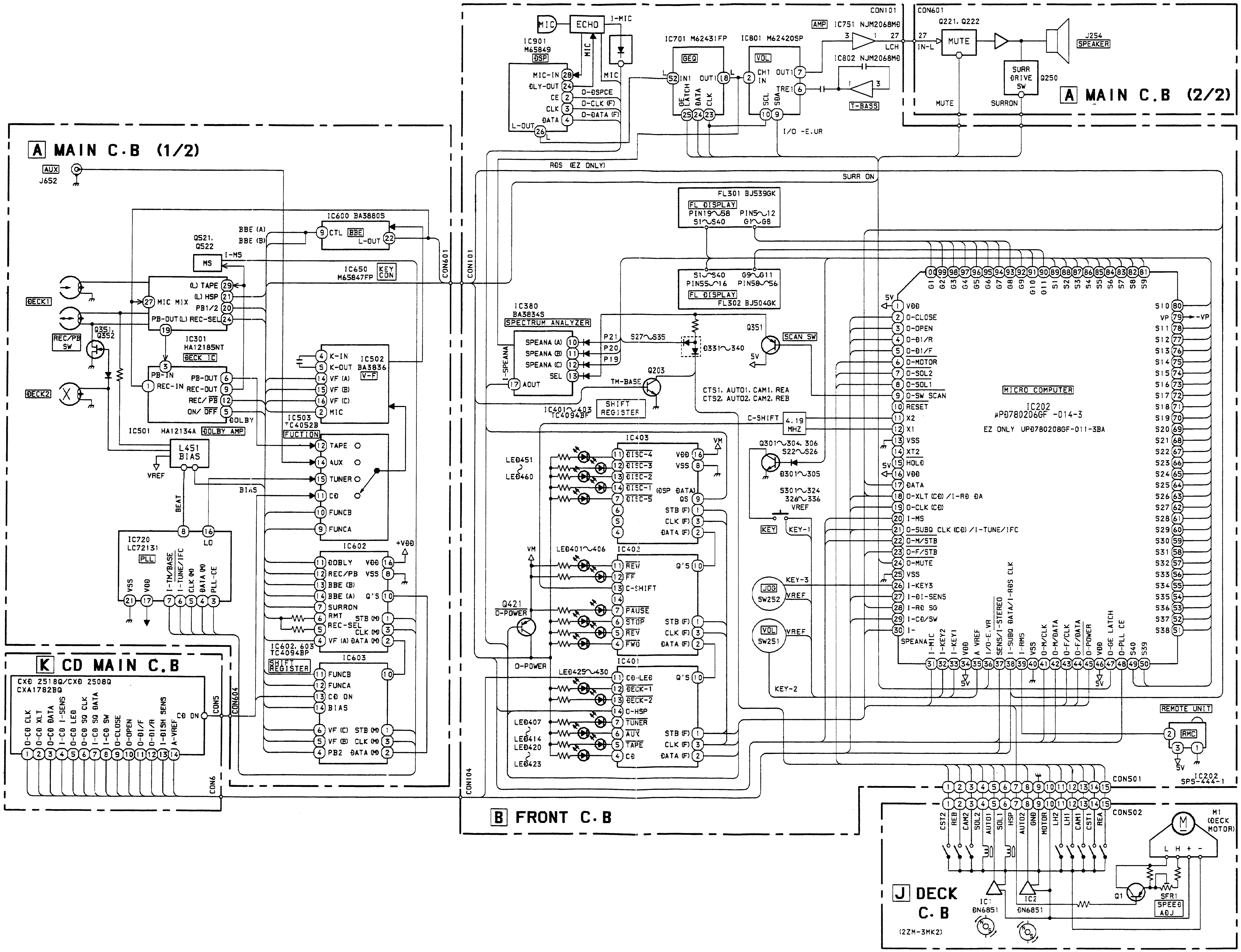
BLOCK DIAGRAM – 1 (TUNER : HE)


TUNER BLOCK
TO MAIN BLOCK
SENS-STEREO
TUNE/IFC
CLK
DATA
PLL CE
TM-BASE
FUNC TUN
IC770 LA1836L AM FRONTEND AM/FM IF/DET.
IC720 LC72131D PLL
FFE801 FEPACK 2EX FM FRONT END
TC701 CLOCK ADJ.
SFR722 AUTO STOP LEVEL ADJ.
L741 IF ADJ.
L741 DC BALANCE ADJ.
J651 MW LOOP
J801 ANTENNA SW
J801 75 Ω FM

BLOCK DIAGRAM – 2 (TUNER : LH)

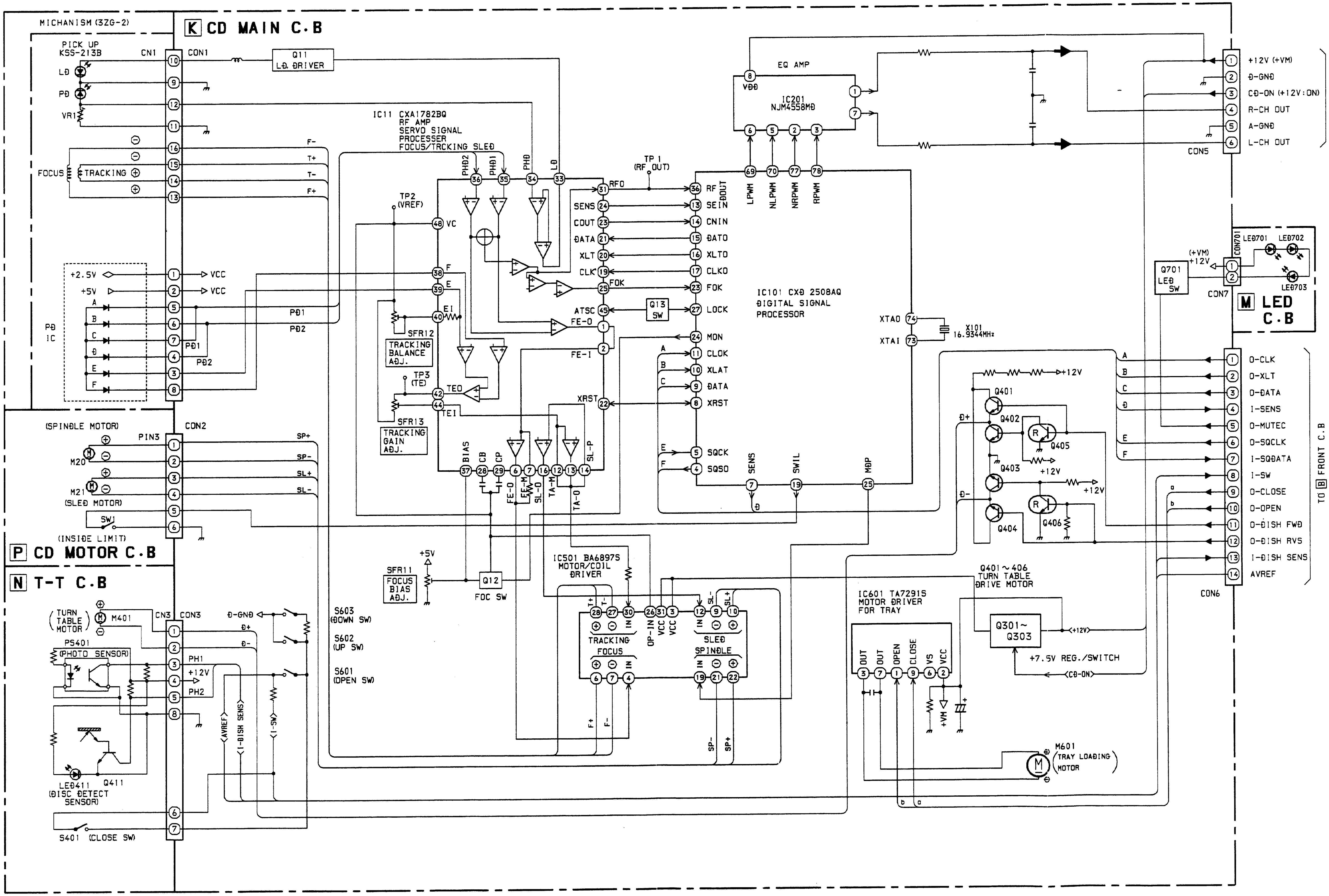

TUNER BLOCK
TO FRONT BLOCK
STEREO
TM/BASE
M-CLK
M-DATA
PLL-CE
TUNE/IFC
FUNC TUN
FUNC A
IC770 LA1836L DECORDER
IC720 LC72130 PLL
Q771, 772 TU+B SWITCH
SFR722 FM AUTO STOP LEVEL ADJ
TC701 CLOCK FREQ ADJ
AM IF ADJ
AM TRACKING ADJ
FFE801 FEPACK 2EX FM FRONT END
J801 ANTENNA
AM LOOP
FM 75 Ω

BLOCK DIAGRAM – 3 (MAIN / FRONT)



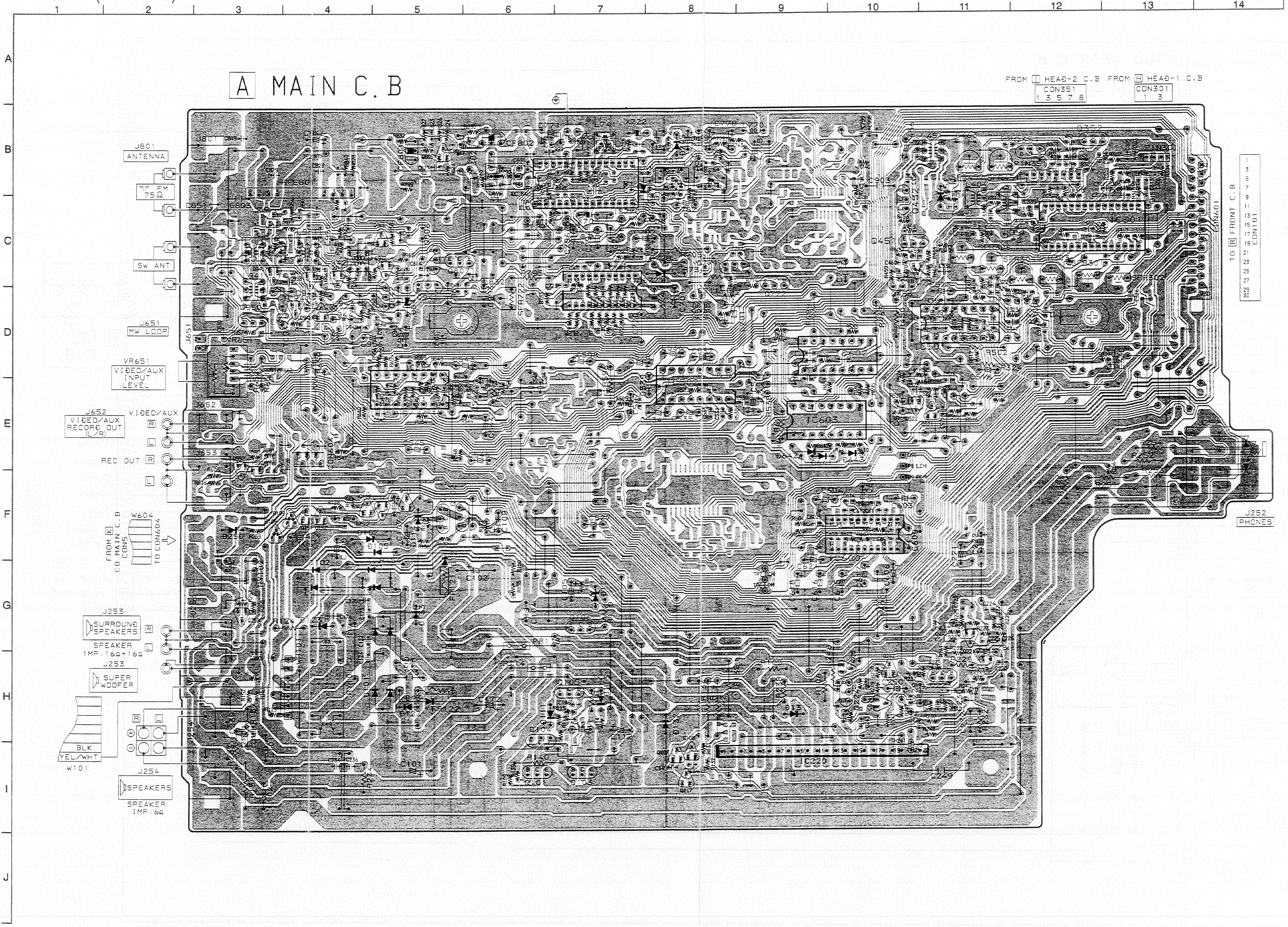
A MAIN C.B (1/2)
A MAIN C.B (2/2)
B FRONT C.B
K CD MAIN C.B
J DECK C.B
(2ZM-3MK2)
AUX
J652
DECK1
DECK2
REC/PB SW
Q351, Q352
Q521, Q522
MS
I-MS
IC600 BA3880S
BBE
CTL
L-OUT
BBE (A)
BBE (B)
IC650 M65847FP
KEY CON
MIC MIX
(L) TAPE
(L) HSP
PB1/2
PB-OUT(L) REC-SEL
IC301 HA12185NT
DECK IC
PB-IN
REC-IN
PB-OUT
REC-OUT
REC/PB
ON/OFF
DOLBY
IC501 HA12134A
DOLBY AMP
L451 BIAS
VREF
BEAT
BIAS
LO
IC720 LC72131
PLL
VSS
VDD
I-TM/BASE
I-TUNE/IFC
CLK (M)
DATA (M)
PLL-CE
IC502 BA3836
V-F
K-IN
K-OUT
VF (A)
VF (B)
VF (C)
MIC
IC503 TC4052B
FUCTION
TAPE
AUX
TUNER
CD
FUNCB
FUNCA
IC602
DOLBY
REC/PB
BBE (B)
BBE (A)
SURRON
RMT
VF (A)
VDD
VSS
Q'S
STB (M)
CLK (M)
DATA (M)
+VDD
IC602, 603 TC4094BP
SHIFT REGISTER
IC603
FUNCB
FUNCA
CD ON
BIAS
VF (C)
VF (B)
PB2
CON601
CON101
CON604
CON5
CON6
CON104
CXD 2518Q/CXD 2508Q
CXA1782BQ
O-CD CLK
O-CD XLT
O-CD DATA
I-CD I-SENS
O-CD LED
O-CD SQ CLK
I-CD SQ DATA
I-CD SW
O-CLOSE
O-OPEN
O-DI/F
O-DI/R
I-DISH SENS
A-VREF
CD ON
MIC
ECHO
I-MIC
IC901 M65849
DSP
MIC-IN
DLY-OUT
CE
CLK
DATA
L-OUT
O-DSPCE
O-CLK (F)
O-DATA (F)
IC701 M62431FP
GEQ
IN1
OUT1
OE LATCH
DATA
CLK
IC801 M62420SP
VOL
CH1 IN
OUT1
TRE1
SCL
SDA
AMP
IC751 NJM2068MD
LCH
IC802 NJM2068MD
T-BASS
I/O -E.VR
CON101
CON601
Q221, Q222
MUTE
IN-L
J254
SPEAKER
SURR DRIVE SW
Q250
MUTE
SURRON
RDS (EZ ONLY)
SURR ON
FL301 BJ539GK
FL DISPLAY
PIN19∿58 PIN5∿12
S1∿S40 G1∿G8
S1∿S40 G9∿G11
PIN55∿16 PIN58∿56
FL DISPLAY
FL302 BJ504GK
IC380 BA3834S
SPECTRUM ANALYZER
SPEANA (A)
SPEANA (B)
SPEANA (C)
SEL
AOUT
I-SPEANA
P21
P20
P19
S27∿S35
D331∿340
Q351
SCAN SW
5V
TM-BASE
Q203
IC401∿403 TC4094BF
SHIFT REGISTER
CTS1, AUTO1, CAM1, REA
CTS2, AUTO2, CAM2, REB
C-SHIFT
4.19 MHZ
Q301∿304, 306
S22∿S26
D301∿305
S301∿324
326∿336
VREF
KEY
KEY-1
KEY-3
JOG SW252
VOL SW251
KEY-2
IC403
LED451
LED460
DISC-4
DISC-3
DISC-2
DISC-1
DISC-5
VDD
VSS
(DSP DATA)
QS
STB (F)
CLK (F)
DATA (F)
VM
IC402
LED401∿406
REV
FF
C-SHIFT
PAUSE
STOP
REV
FWD
Q'S
Q421
O-POWER
IC401
LED425∿430
CD-LED
DECK-1
DECK-2
C-HSP
TUNER
AUX
TAPE
CD
LED407
LED414
LED420
LED423
MICRO COMPUTER
IC202
μPD780206GF -014-3
EZ ONLY UPD780208GF-011-3BA
VDD
O-CLOSE
O-OPEN
O-DI/R
O-DI/F
O-MOTOR
O-SOL2
O-SOL1
O-SW SCAN
RESET
X2
X1
VSS
XT2
HOLD
VDD
DATA
O-XLT (CD) /I-RD DA
O-CLK (CD)
I-MS
O-SUBQ CLK (CD) /I-TUNE/IFC
O-M/STB
O-F/STB
O-MUTE
VSS
I-KEY3
I-DI-SENS
I-RD SG
I-CD/SW
I-SPEANA
I-MIC
I-KEY2
I-KEY1
VDD
A VREF
I/O-E.VR
SENS/I-STEREO
I-SUBQ DATA/I-RDS CLK
I-RMS
VSS
O-M/CLK
O-M/DATA
O-F/CLK
O-F/DATA
O-POWER
VDD
O-OE LATCH
O-PLL CE
S40
S39
G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11
S1 S2 S3 S4 S5 S6 S7 S8 S9
S10 VP S11 S12 S13 S14 S15 S16 S17 S18 S19 S20 S21 S22 S23 S24 S25 S26 S27 S28 S29 S30 S31 S32 S33 S34 S35 S36 S37 S38
-VP
REMOTE UNIT
RMC
IC202 SPS-444-1
CON501
CON502
CST2
REB
CAM2
SOL2
AUTO1
SOL1
HSP
AUTO2
GND
MOTOR
LH2
LH1
CAM1
CST1
REA
M1 (DECK MOTOR)
L H + -
Q1
SFR1
SPEED ADJ
IC1 DN6851
IC2 DN6851

BLOCK DIAGRAM – 4 (CD)

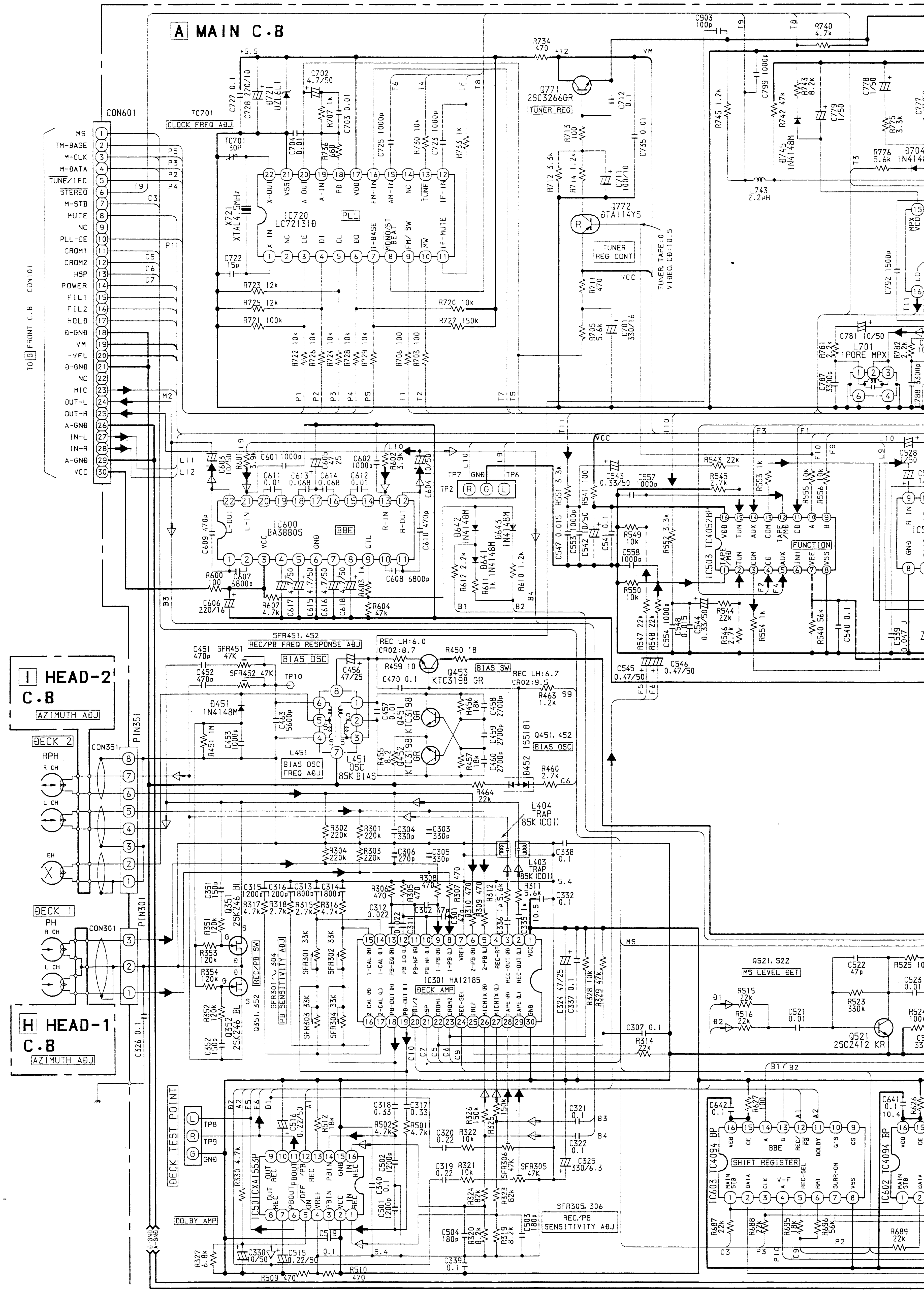


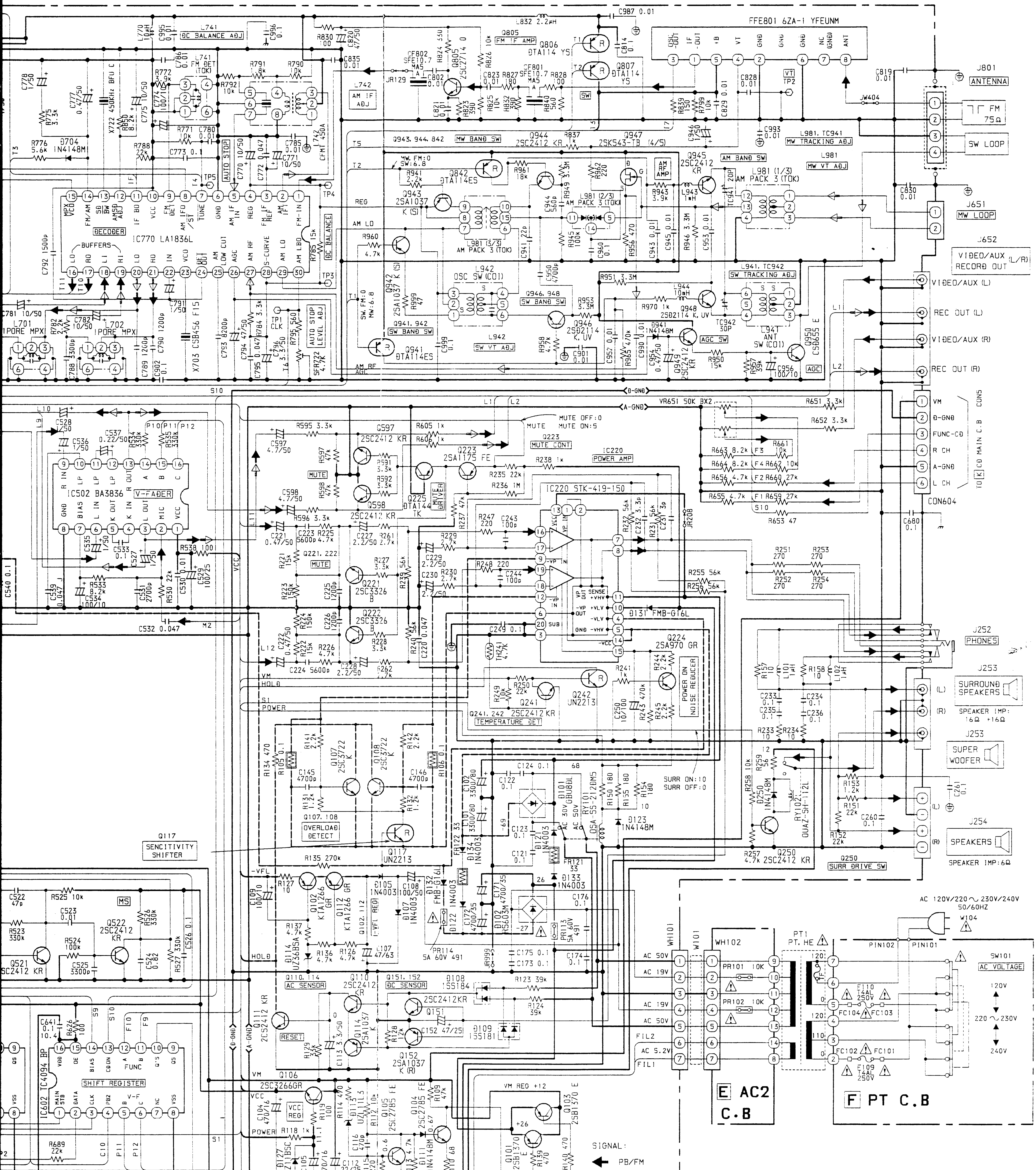
MICHANISM (3ZG-2)
K CD MAIN C·B
PICK UP KSS-213B
CN1
CON1
LD
PD
VR1
Q11 LD. DRIVER
FOCUS
TRACKING
F-
T+
T-
F+
IC11 CXA1782BQ RF AMP SERVO SIGNAL PROCESSER FOCUS/TRCKING SLED
PHD2
PHD1
PHD
LD
TP1 (RF OUT)
RFO
SENS
COUT
DATA
XLT
CLK
FOK
ATSC
FE-O
FE-I
XRST
TP2 (VREF)
VC
F
E
EI
SFR12
TRACKING BALANCE ADJ.
TP3 (TE)
TEO
TEI
SFR13
TRACKING GAIN ADJ.
BIAS
CB
CP
SL-P
FE-O
FE-M
SL-O
TA-M
TA-O
Q13 SW
+2.5V
+5V
VCC
PD IC
PD1
PD2
A
B
C
D
E
F
EQ AMP
VDD
IC201 NJM4558MD
LPWM
NLPWM
NRPWM
RPWM
RF
DOUT
SEIN
CNIN
DATO
XLTO
CLKO
FOK
LOCK
MON
CLOK
XLAT
DATA
XRST
SQCK
SQSO
SENS
SWIL
MDP
IC101 CXD 2508AQ DIGITAL SIGNAL PROCESSOR
XTAO
XTAI
X101 16.9344MHz
+12V (+VM)
D-GND
CD-ON (+12V:ON)
R-CH OUT
A-GND
L-CH OUT
CON5
TO A MAIN C.B CON604
Q701 LED SW
(+VM) +12V
CON701
LED701
LED702
LED703
CON7
M LED C·B
O-CLK
O-XLT
O-DATA
I-SENS
O-MUTEC
O-SQCLK
I-SQDATA
I-SW
O-CLOSE
O-OPEN
O-DISH FWD
O-DISH RVS
I-DISH SENS
AVREF
CON6
TO B FRONT C.B CN104
Q401
Q402
Q403
Q404
Q405
Q406
D+
D-
+12V
Q401～406 TURN TABLE DRIVE MOTOR
(SPINDLE MOTOR)
PIN3
CON2
M20
M21
(SLED MOTOR)
SW
(INSIDE LIMIT)
SP+
SP-
SL+
SL-
P CD MOTOR C·B
N T-T C·B
+5V
SFR11 FOCUS BIAS ADJ.
Q12
FOC SW
IC501 BA6897S MOTOR/COIL DRIVER
TRACKING
FOCUS
SLED
SPINDLE
OP-IN
VCC
IN
F+
F-
SP-
SP+
IC601 TA7291S MOTOR DRIVER FOR TRAY
OUT
OPEN
CLOSE
VS
VCC
+VM
Q301～Q303
(+12V)
+7.5V REG./SWITCH
(CD-ON)
M601 (TRAY LOADING MOTOR)
(TURN TABLE MOTOR)
M401
CN3
CON3
PS401 (PHOTO SENSOR)
PH1
+12V
PH2
D-GND
D+
D-
S603 (DOWN SW)
S602 (UP SW)
S601 (OPEN SW)
(AVREF)
(I-DISH SENS)
(I-SW)
LED411
Q411
(DISC DETECT SENSOR)
S401 (CLOSE SW)

WIRING – 1 (MAIN : HE)


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
A MAIN C.B
FROM I HEAD-2 C.B
CON351
1 3 5 7 8
FROM H HEAD-1 C.B
CON301
1 3
J801
ANTENNA
FM 75Ω
SW ANT
J651
MW LOOP
VR651
VIDEO/AUX
INPUT
LEVEL
J652
VIDEO/AUX
RECORD OUT
(L/R)
VIDEO/AUX
R
L
REC OUT
R
L
W604
FROM K CD MAIN C.B CON5
TO CON604
J253
SURROUND
SPEAKERS
R
L
SPEAKER
IMP: 16Ω+16Ω
J253
SUPER
WOOFER
R
L
+
−
BLK
YEL/WHT
W101
J254
SPEAKERS
SPEAKER
IMP: 6Ω
J252
PHONES
CON601
TO B FRONT C.B
CON101
1
3
5
7
9
11
13
15
17
19
21
23
25
27
29
30
IC603
IC220
C101
C102
C851
C903
Q45
R502
X722

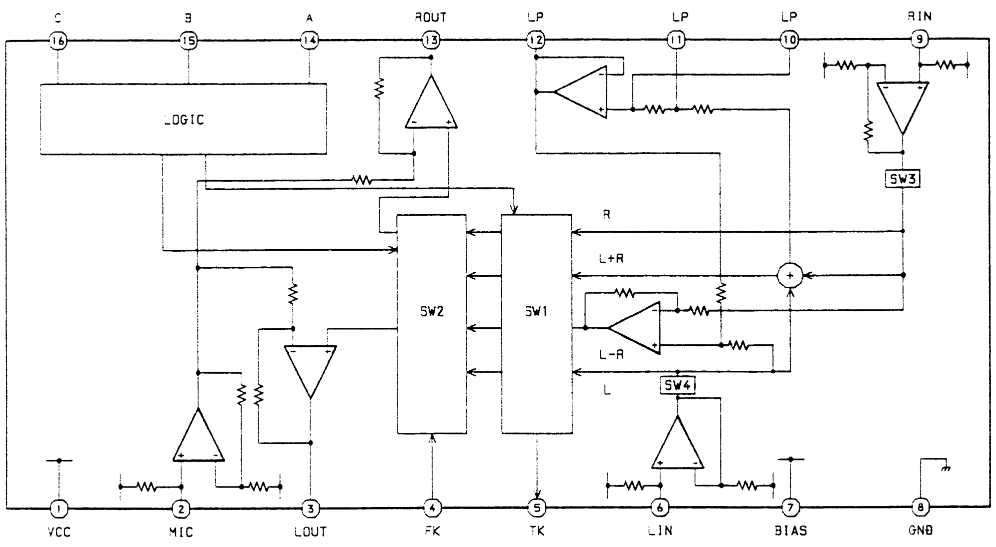
SCHEMATIC DIAGRAM – 1 (MAIN : HE)


A MAIN C.B
CON601
MS
TM-BASE
M-CLK
M-DATA
TUNE/IFC
STEREO
M-STB
MUTE
NC
PLL-CE
CROM1
CROM2
HSP
POWER
FIL1
FIL2
HOLD
D-GND
VM
-VFL
D-GND
NC
MIC
OUT-L
OUT-R
A-GND
IN-L
IN-R
A-GND
VCC
10 B FRONT C.B CON101
TC701 CLOCK FREQ ADJ
X721 XTAL4.5MHz
IC720 LC72131D
PLL
Q771 2SC3266GR
TUNER REG
Q772 DTA114YS
TUNER REG CONT
TUNER, TAPE:0 VIDEO, CD:10.5
IC600 BA3880S
BBE
TP7 GND TP6
TP2
D642 1N4148M
D641 1N4148M
D643 1N4148M
IC503 TC4052BP
FUNCTION
L701 IPORE MPX
SFR451, 452 REC/PB FREQ RESPONSE ADJ
BIAS OSC
Q453 KTC3198 GR
BIAS SW
REC LH:6.0 CR02:8.7
REC LH:6.7 CR02:9.5
D451 1N4148M
L451 BIAS OSC FREQ ADJ
L451 OSC 85K BIAS
Q451 KTC3198 GR
Q452 KTC3198 GR
D452 1SS181
Q451, 452 BIAS OSC
L404 TRAP 85K (COI)
L403 TRAP 85K (COI)
I HEAD-2 C.B
AZIMUTH ADJ
DECK 2
RPH
R CH
L CH
EH
CON351
PIN351
DECK 1
PH
CON301
PIN301
H HEAD-1 C.B
AZIMUTH ADJ
Q351 2SK246 BL
Q352 2SK246 BL
REC/PB SW
Q351, 352
SFR301 ∼ 304 PB SENSITIVITY ADJ
IC301 HA12185
DECK AMP
MS
Q521, 522
MS LEVEL SET
Q521 2SC2412 KR
DECK TEST POINT
TP8
TP9
GND
IC501 CXA1553P
DOLBY AMP
SFR305, 306 REC/PB SENSITIVITY ADJ
IC603 TC4094 BP
SHIFT REGISTER
IC602 TC4094 BP
D-GND A-GND

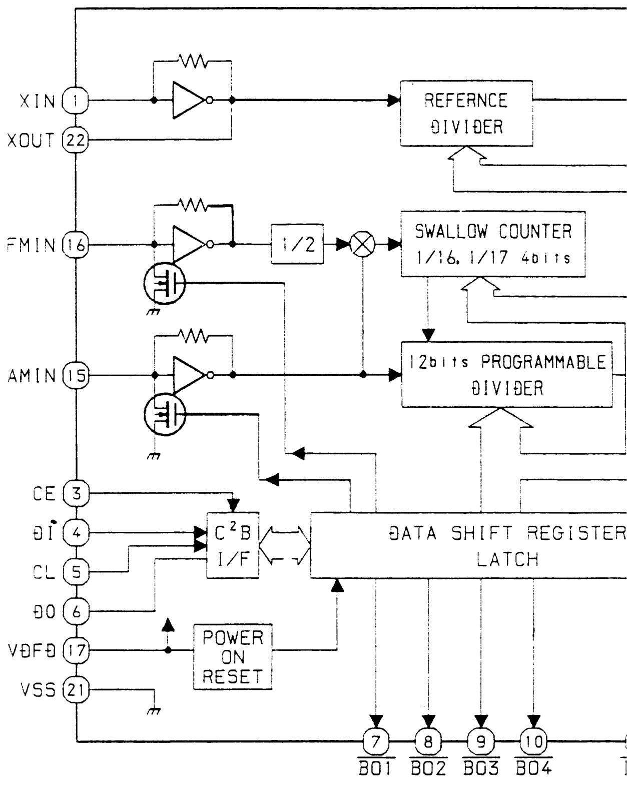

FFE801 6ZA-1 YFEUNM
J801 ANTENNA
FM 75Ω
SW LOOP
J651 MW LOOP
J652 VIDEO/AUX RECORD OUT (L/R)
VIDEO/AUX (L)
REC OUT (L)
VIDEO/AUX (R)
REC OUT (R)
IC770 LA1836L
DECODER
BUFFERS
BC BALANCE ADJ
FM DET (TOK)
AM IF ADJ
FM IF AMP
AUTO STOP
AUTO STOP LEVEL ADJ
MW BAND SW
AM BAND SW
MW TRACKING ADJ
MW VT ADJ
AM PACK 3 (TOK)
SW TRACKING ADJ
OSC SW (CO1)
SW BAND SW
SW VT ADJ
AGC SW
AGC
IC502 BA3836
V-FADER
MUTE
MUTE CONT
MUTE DRIVER
MUTE OFF:0
MUTE ON:5
IC220 POWER AMP
IC220 STK-419-150
TEMPERATURE DET
POWER ON NOISE REDUCER
OVERLOAD DETECT
Q117 SENCITIVITY SHIFTER
CON604
TO CD MAIN C.B CON5
VM
D-GND
FUNC-CD
R CH
A-GND
L CH
J252 PHONES
J253 SURROUND SPEAKERS
SPEAKER IMP: 16Ω ~16Ω
J253 SUPER WOOFER
J254 SPEAKERS
SPEAKER IMP: 6Ω
Q250 SURR DRIVE SW
SURR ON:10
SURR OFF:0
MS
AC SENSOR
DC SENSOR
RESET
VCC REG
I-VFL REG
IC602 TC4094 BP
SHIFT REGISTER
VM REG +12
Q101, 103~105 VM CONST REG
SIGNAL:
PB/FM
REC/AM
AC 120V/220~230V/240V 50/60HZ
W104
SW101 AC VOLTAGE
120V
220~230V
240V
PT1 PT. HE
E AC2 C.B
F PT C.B
WH101
WH102
PIN102
PIN101
AC 50V
AC 19V
AC 5.2V
FIL1
FIL2

IC BLOCK DIAGRAM – 1

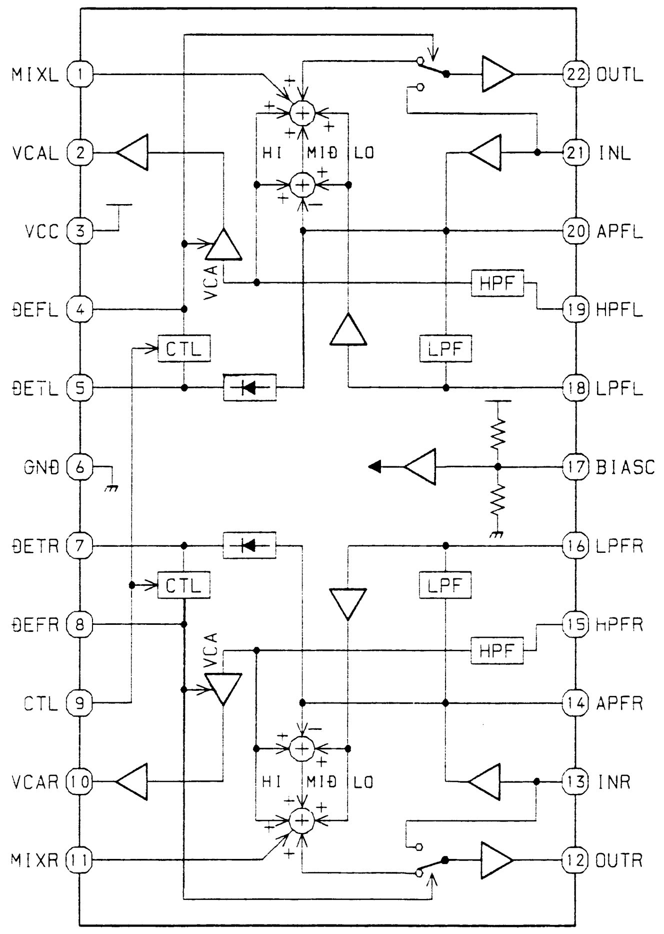
IC, BA3836


C
B
A
ROUT
LP
LP
LP
RIN
LOGIC
SW3
SW2
SW1
R
L+R
L-R
L
SW4
VCC
MIC
LOUT
FK
TK
LIN
BIAS
GND

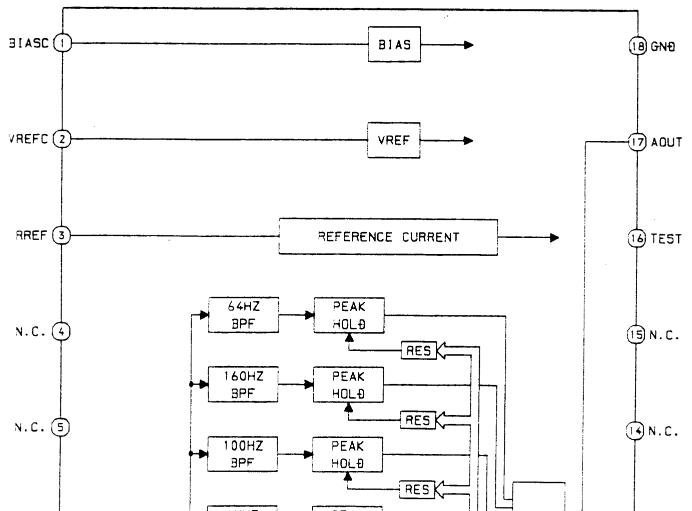
IC, LC72131


XIN
XOUT
FMIN
AMIN
CE
DI
CL
DO
VDFD
VSS
REFERNCE DIVIDER
1/2
SWALLOW COUNTER 1/16, 1/17 4bits
12bits PROGRAMMABLE DIVIDER
C²B I/F
DATA SHIFT REGISTER LATCH
POWER ON RESET
BO1
BO2
BO3
BO4

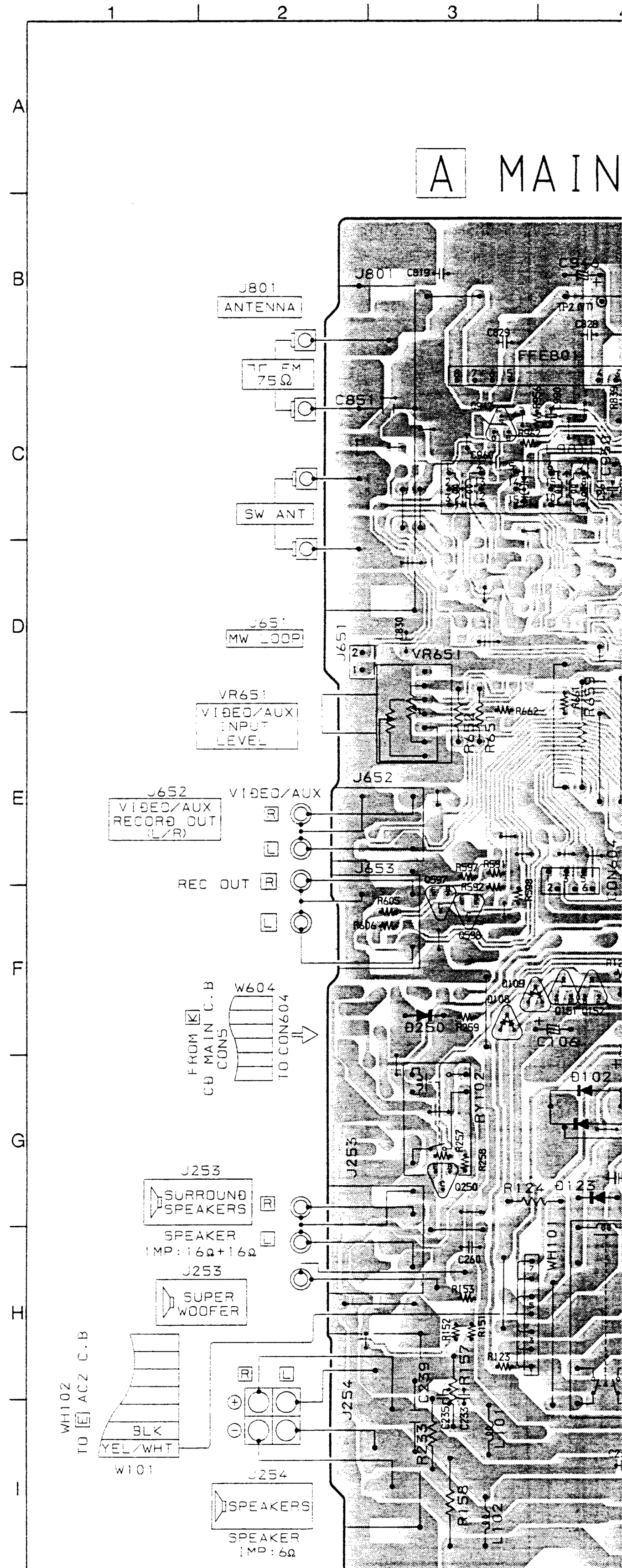
IC, BA3880S

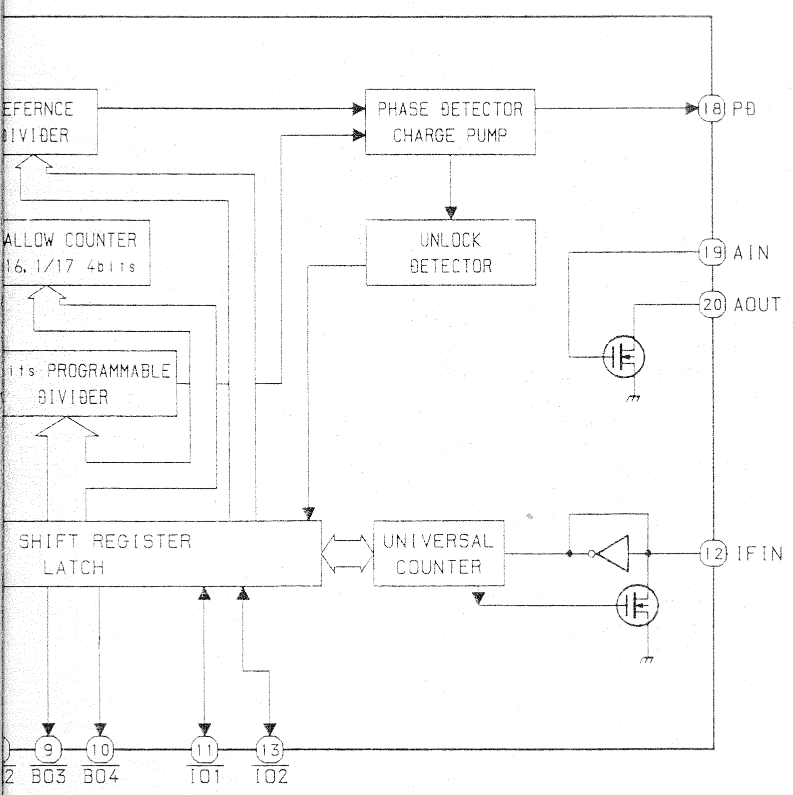

MIXL
VCAL
VCC
DEFL
DETL
GND
DETR
DEFR
CTL
VCAR
MIXR
OUTL
INL
APFL
HPFL
LPFL
BIASC
LPFR
HPFR
APFR
INR
OUTR
HI
MID
LO
VCA
HPF
CTL
LPF

IC, BA3834S

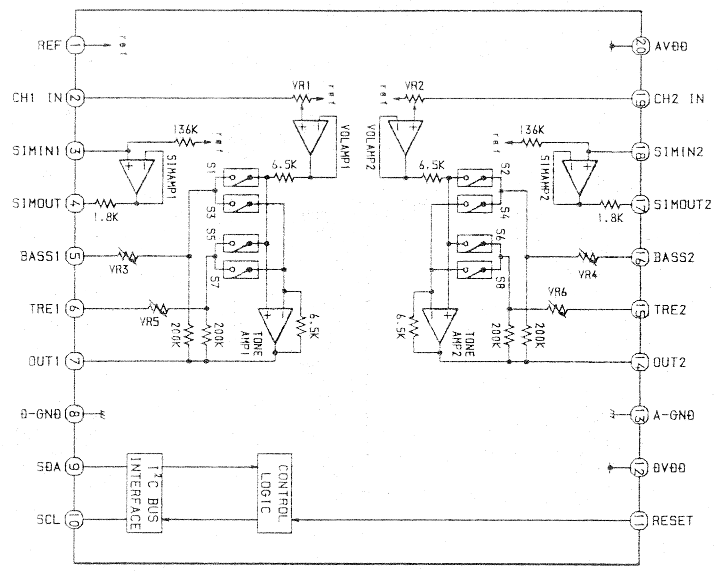

BIASC
VREFC
RREF
N.C.
N.C.
DIFOUT
CIN
AIN
VCC
GND
AOUT
TEST
N.C.
N.C.
SEL
C
B
A
BIAS
VREF
REFERENCE CURRENT
64HZ BPF
160HZ BPF
100HZ BPF
1KHZ BPF
2.5KHZ BPF
6.3KHZ BPF
15.6KHZ BPF
PEAK HOLD
RES
MPX
DEF
DEC

WIRING – 2 (MAIN : LH)

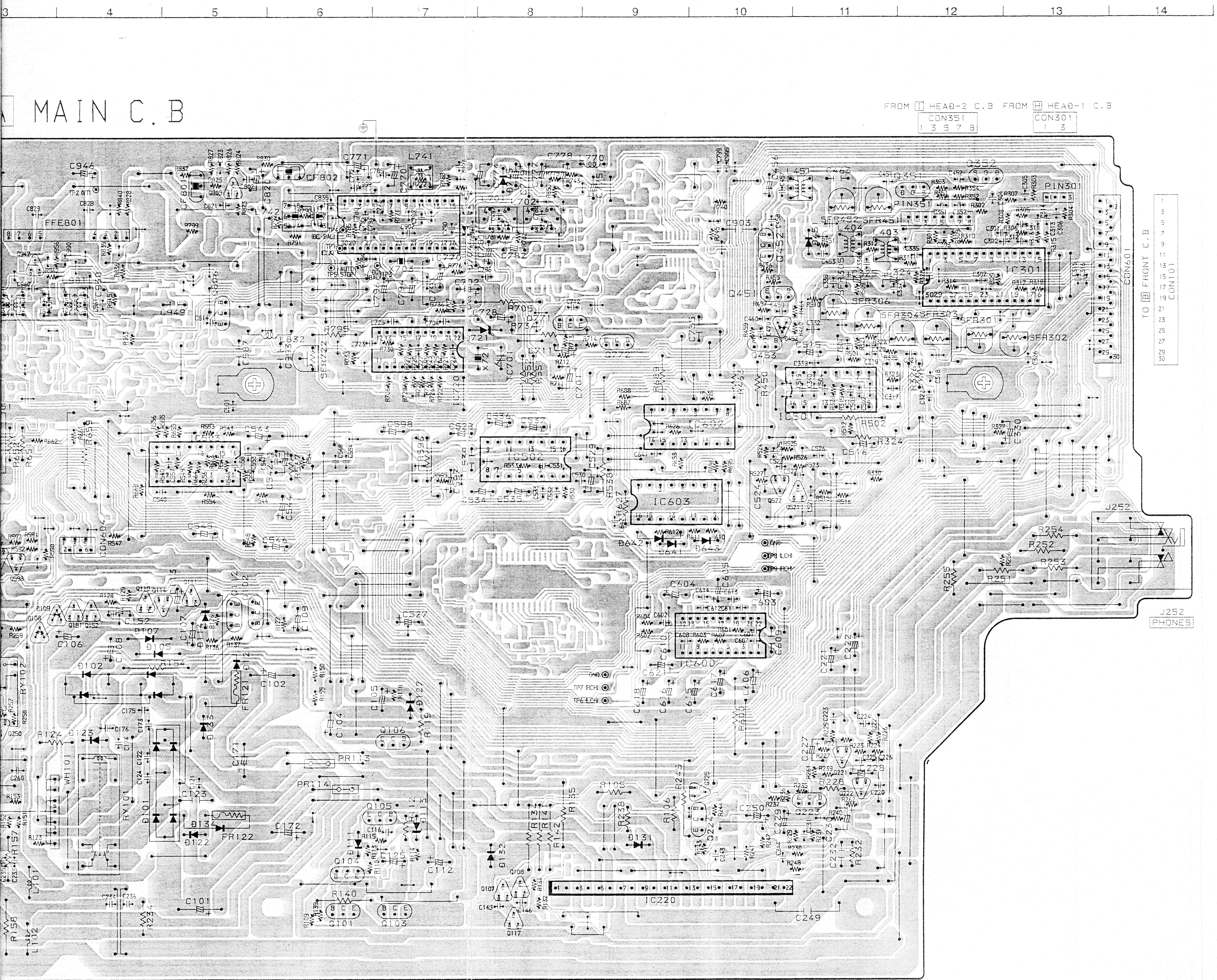

A MAIN
J801 ANTENNA
FM 75Ω
SW ANT
J651 MW LOOP
VR651 VIDEO/AUX INPUT LEVEL
J652 VIDEO/AUX RECORD OUT (L/R)
VIDEO/AUX
REC OUT
FROM K CD MAIN C.B CON5
W604
TO CON604
J253 SURROUND SPEAKERS
SPEAKER IMP: 16Ω+16Ω
J253 SUPER WOOFER
WH102 TO E AC2 C.B
BLK
YEL/WHT
W101
J254 SPEAKERS
SPEAKER IMP: 6Ω


EFERNCE DIVIDER
PHASE DETECTOR CHARGE PUMP
18 PD
ALLOW COUNTER 16, 1/17 4bits
UNLOCK DETECTOR
19 AIN
20 AOUT
bits PROGRAMMABLE DIVIDER
SHIFT REGISTER LATCH
UNIVERSAL COUNTER
12 IFIN
9 BO3
10 BO4
11 IO1
13 IO2

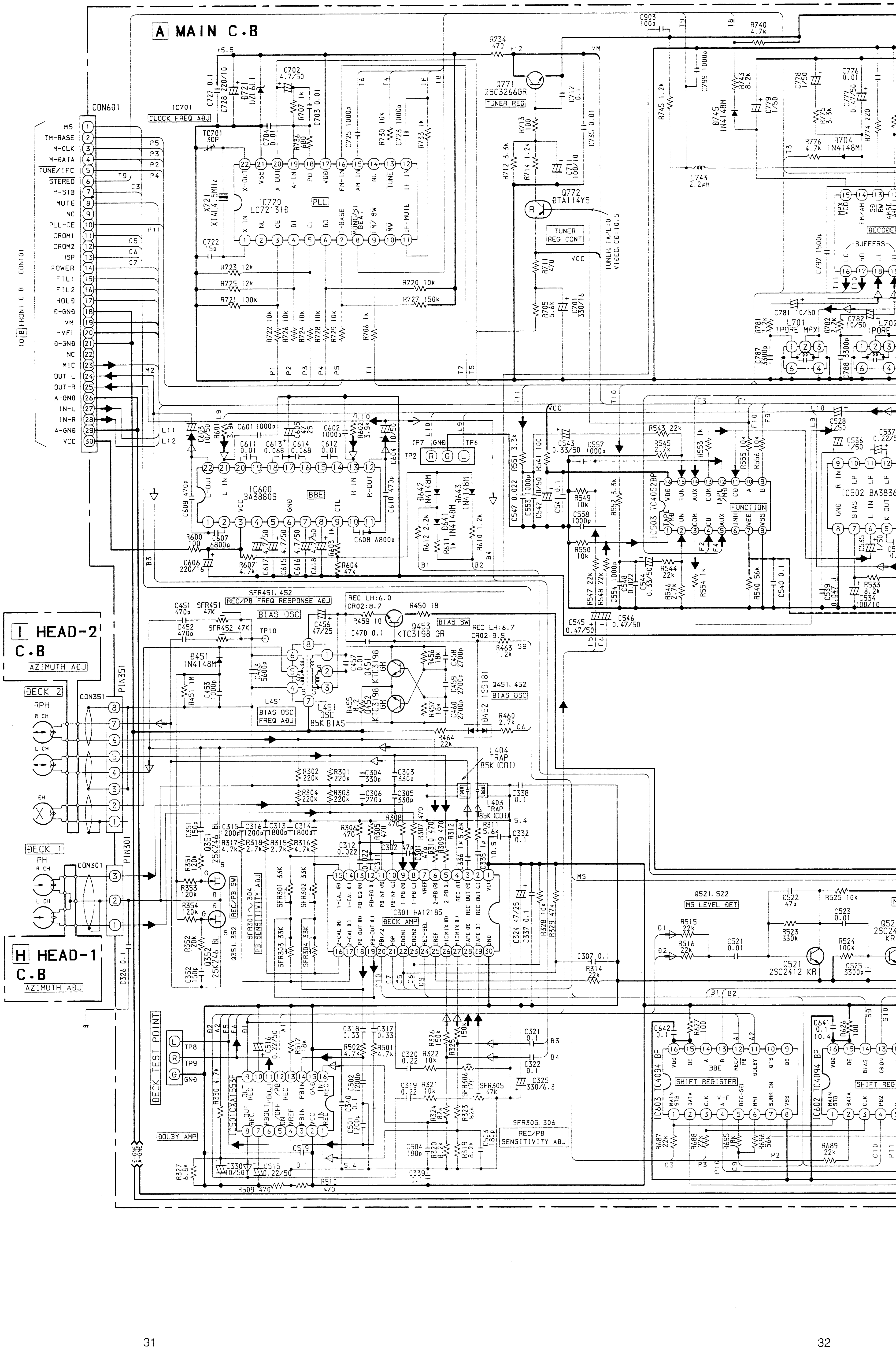
IC, M62420SP

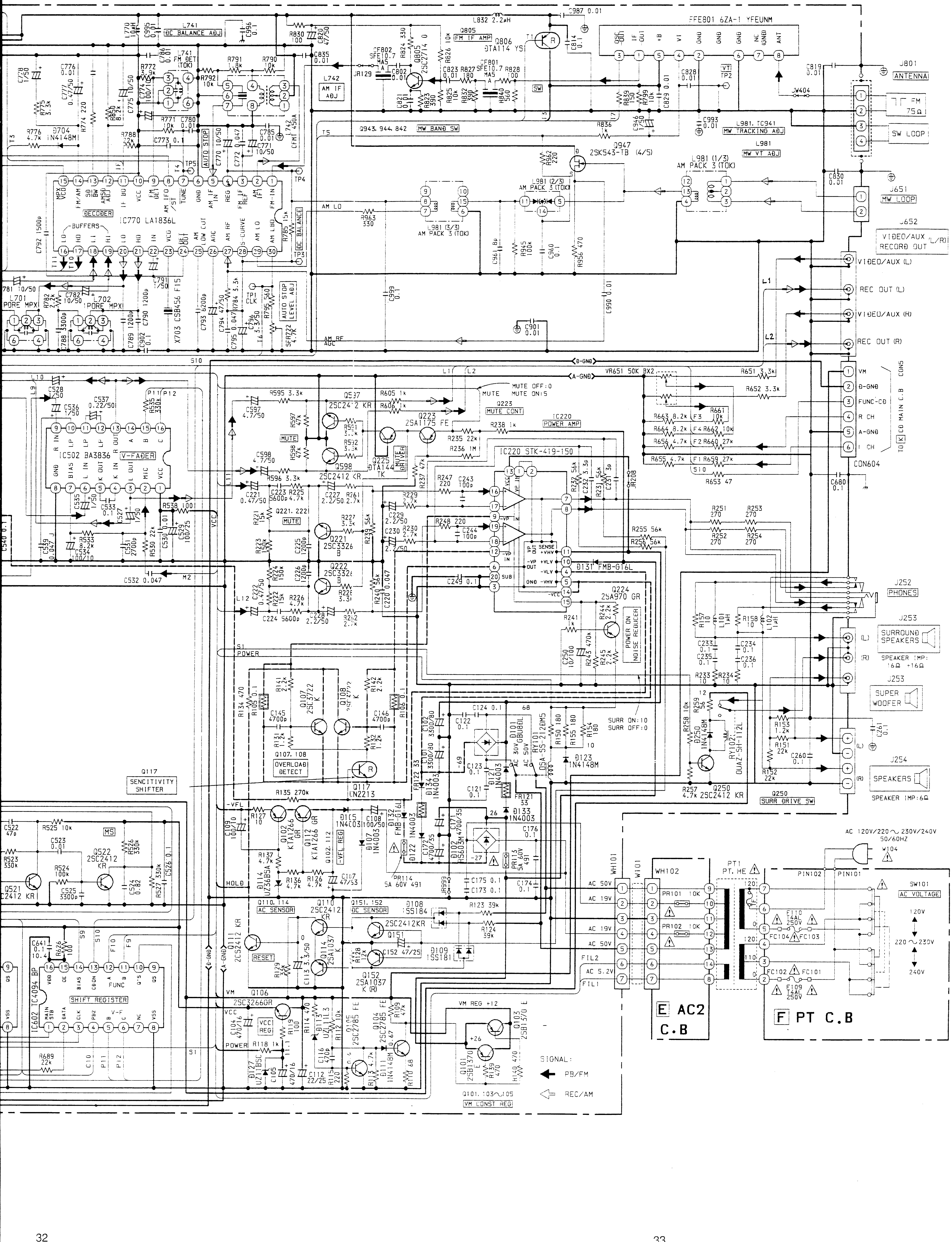

REF 1
CH1 IN 2
SIMIN1 3
SIMOUT 4
BASS1 5
TRE1 6
OUT1 7
D-GND 8
SDA 9
SCL 10
20 AVDD
19 CH2 IN
18 SIMIN2
17 SIMOUT2
16 BASS2
15 TRE2
14 OUT2
13 A-GND
12 DVDD
11 RESET
VR1
VR2
VOLAMP1
VOLAMP2
136K
6.5K
1.8K
SIMAMP1
SIMAMP2
VR3
VR4
VR5
VR6
200K
TONE AMP1
TONE AMP2
I²C BUS INTERFACE
CONTROL LOGIC

MAIN C.B

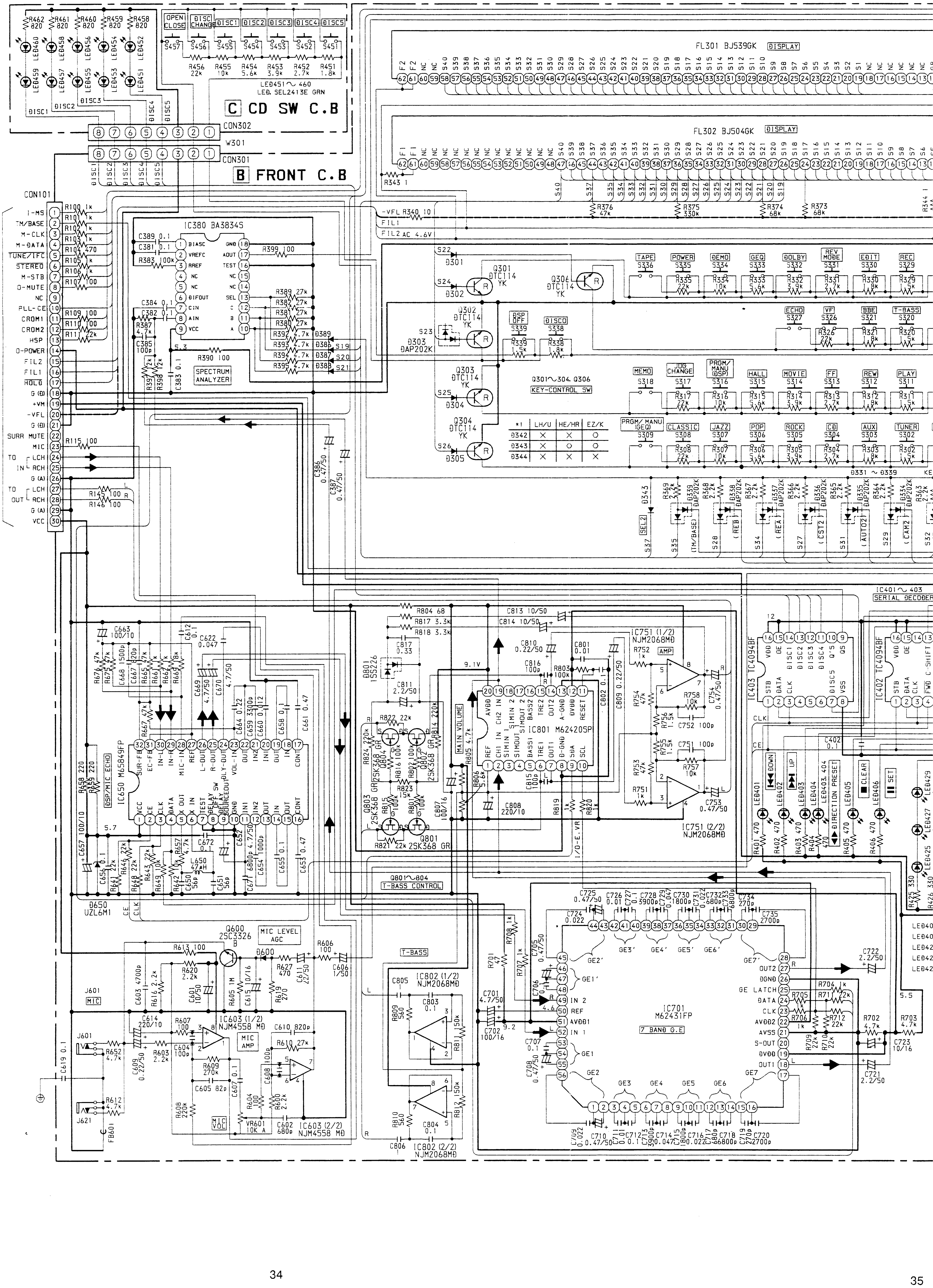

3
4
5
6
7
8
9
10
11
12
13
14
FROM Ⓘ HEAD-2 C.B
CON351
1 3 5 7 8
FROM Ⓗ HEAD-1 C.B
CON301
1 3
TO Ⓑ FRONT C.B
CON101
CON601
IC301
IC602
IC603
IC600
IC220
J252
J252 PHONES
PIN301
PIN351
RY101
RY102
PR113
PR114
FR121
FR122
TP7 RCH
TP6 LCH

SCHEMATIC DIAGRAM – 2 (MAIN : LH)

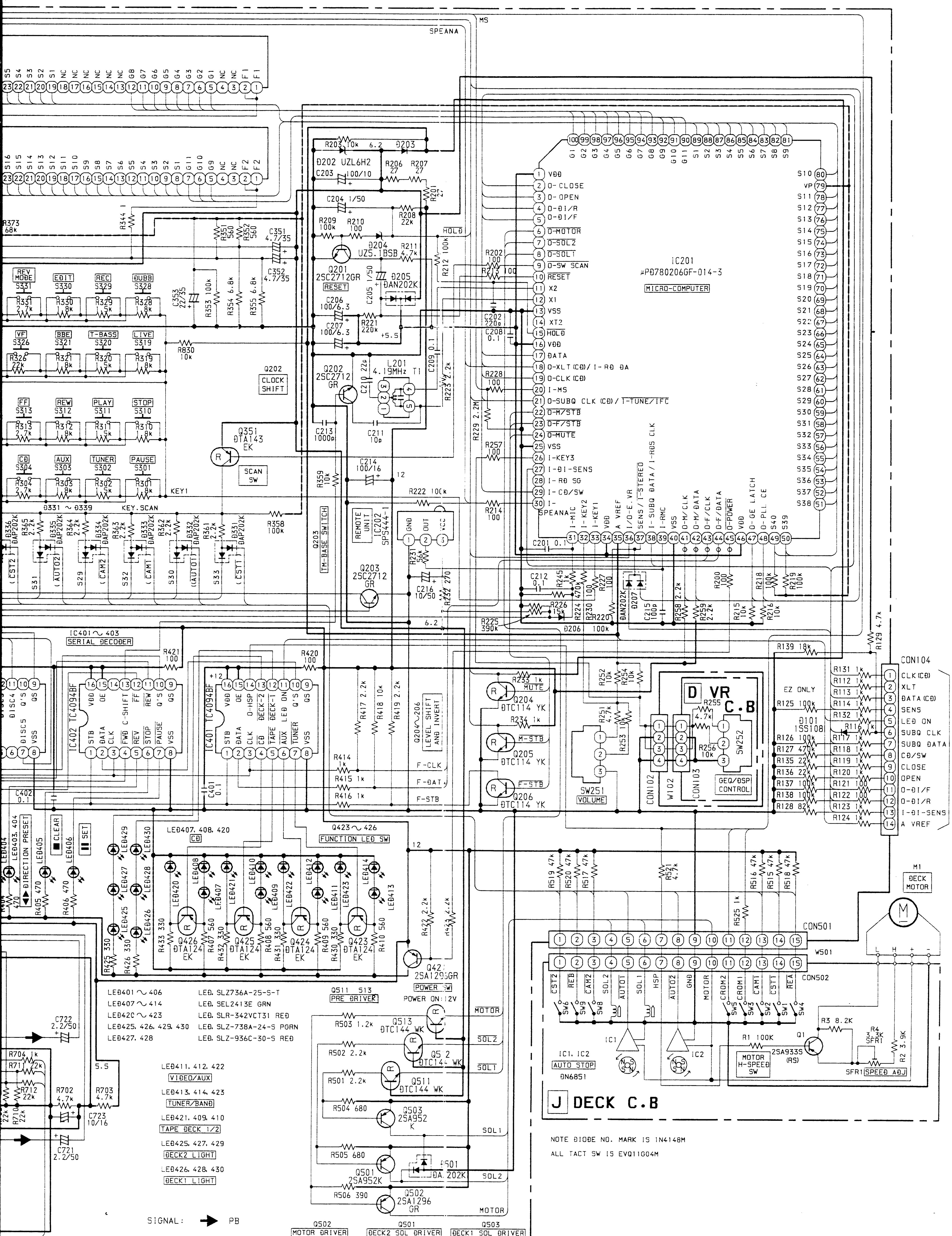

A MAIN C.B
CON601
TO B FRONT C.B CON101
MS
TM-BASE
M-CLK
M-DATA
TUNE/IFC
STEREO
M-STB
MUTE
NC
PLL-CE
CROM1
CROM2
HSP
POWER
FIL1
FIL2
HOLD
D-GND
VM
-VFL
D-GND
NC
MIC
OUT-L
OUT-R
A-GND
IN-L
IN-R
A-GND
VCC
TC701 CLOCK FREQ ADJ
IC720 LC72131D
PLL
X721 XTAL4.5MHz
Q771 2SC3266GR
TUNER REG
Q772 DTA114YS
TUNER REG CONT
TUNER, TAPE:0 VIDEO, CD:10.5
IC600 BA3880S
BBE
TP7 GND TP6
TP2 R G L
IC503 TC4052BP
FUNCTION
IC502 BA3836
BUFFERS
DECODER
L701 IPORE MPX
SFR451, 452 REC/PB FREQ RESPONSE ADJ
BIAS OSC
BIAS SW
Q453 KTC3198 GR
Q451 KTC3198 GR
Q452 KTC3198 GR
Q451, 452 BIAS OSC
D451 1N4148M
D452 1SS181
L451 BIAS OSC FREQ ADJ
L451 OSC 85K BIAS
L404 TRAP 85K (COI)
L403 TRAP 85K (COI)
REC LH:6.0 CR02:8.7
REC LH:6.7 CR02:9.5
I HEAD-2 C.B
AZIMUTH ADJ
DECK 2
RPH
R CH
L CH
EH
CON351
PIN351
DECK 1
PH
R CH
L CH
CON301
PIN301
H HEAD-1 C.B
AZIMUTH ADJ
Q351, 352 2SK246 BL
REC/PB SW
SFR301~304 PB SENSITIVITY ADJ
IC301 HA12185
DECK AMP
Q521, 522 MS LEVEL DET
Q521 2SC2412 KR
DECK TEST POINT
TP8 L
TP9 R
G GND
IC501 CXA1552P
DOLBY AMP
SFR305, 306 REC/PB SENSITIVITY ADJ
IC603 TC4094 BP
SHIFT REGISTER
IC602 TC4094 BP
SHIFT REG
D-GND A-GND

FFE801 6ZA-1 YFEUNM
J801 ANTENNA
FM 75Ω
SW LOOP
J651 MW LOOP
J652 VIDEO/AUX RECORD OUT (L/R)
VIDEO/AUX (L)
REC OUT (L)
VIDEO/AUX (R)
REC OUT (R)
L832 2.2μH
C987 0.01
L741 DC BALANCE ADJ
L741 FM DET (TOK)
Q805 FM IF AMP
Q806 DTA114 YS
Q805 2SC2714 O
CF802 SFE10.7 MAS
CF801 SFE10.7 MAS
L742 AM IF ADJ
L742 CFMT 450A
AUTO STOP
TP5
TP4
TP3
TP2
VT
SW
T5
Q943, 944, 842 MW BAND SW
L981, TC941 MW TRACKING ADJ
L981 MW VT ADJ
Q947 2SK543-TB (4/5)
L981 (1/3) AM PACK 3 (TOK)
L981 (2/3) AM PACK 3 (TOK)
L981 (3/3) AM PACK 3 (TOK)
AM LO
AM RF AGC
IC770 LA1836L
DECODER
BUFFERS
DC BALANCE
AUTO STOP LEVEL ADJ
SFR722 4.7K
X703 CSB456 F15
L701 PORE MPX
L702 PORE MPX
IC502 BA3836 V-FADER
Q537 2SC2412 KR
MUTE
Q598 2SC2412 KR
Q223 2SA1175 FE
Q223 MUTE CONT
Q225 DTA144 TK
MUTE DRIVER
MUTE OFF:0
MUTE ON:5
IC220 POWER AMP
IC220 STK-419-150
Q221, 222 MUTE
Q221 2SC3326 B
Q222 2SC3326
D131 FMB-G16L
Q224 2SA970 GR
POWER ON NOISE REDUCER
VR651 50K BX2
D-GND
A-GND
CON5 TO (K) CD MAIN C.B
VM
D-GND
FUNC-CD
R CH
A-GND
L CH
CON604
J252 PHONES
J253 SURROUND SPEAKERS
SPEAKER IMP: 16Ω ~ 16Ω
J253 SUPER WOOFER
J254 SPEAKERS
SPEAKER IMP: 6Ω
Q250 2SC2412 KR
Q250 SURR DRIVE SW
RY102 QUAZ-SH-112L
D250 1N4148M
SURR ON: 10
SURR OFF: 0
RY101 DSA-SS-212DM5
D101 GBU8DL
D123 1N4148M
D121 1N4003
D133 1N4003
D134 1N4003
D132 FMB-G16L
FR121 33
FR122 33
Q107 2SC3722 K
Q108 2SC2712 K
Q107, 108 OVERLOAD DETECT
Q117 SENCITIVITY SHIFTER
Q117 UN2213
S1 POWER
Q102 KTA1266 GR
Q112 KTA1266 GR
Q102, 112 -VFL REG
D105 1N4003
D107 1N4003
D122 1N4003
D102 RS603M
PR113 5A 60V
PR114 5A 60V 491
D114 UZ36BSA
HOLD
Q110, 114 AC SENSOR
Q110 2SC2412 KR
Q114 2SA1037 K
Q111 2SC2412 KR
RESET
Q151, 152 DC SENSOR
Q151 2SC2412KR
Q152 2SA1037 K (R)
D108 1SS184
D109 1SS181
Q106 2SC3266GR
VCC REG
POWER
D113 UZ11.3
D127 UZ11BSC
Q105 2SC2785 FE
Q104 2SC2785 FE
D111 1N4148M
VM REG +12
Q103 2SB1570 E
Q101 2SB1370 E
Q101, 103~105 VM CONST REG
SIGNAL:
PB/FM
REC/AM
MS
Q522 2SC2412 KR
Q521 2SC2412 KR
IC602 TC4094 BP
SHIFT REGISTER
WH101
W101
WH102
AC 50V
AC 19V
AC 19V
AC 50V
FIL2
AC 5.2V
FIL1
PR101 10K
PR102 10K
PT1 PT.HE
PIN102
PIN101
AC 120V/220~230V/240V 50/60HZ
W104
SW101 AC VOLTAGE
120V
220~230V
240V
F110 T4AL 250V
F109 T4AL 250V
FC101
FC102
FC103
FC104
E AC2 C.B
F PT C.B

SCHEMATIC DIAGRAM – 3 (FRONT)


C CD SW C.B
B FRONT C.B
CON302
W301
CON301
CON101
OPEN CLOSE
DISC CHANGE
DISC1
DISC2
DISC3
DISC4
DISC5
LED451～460 LED. SEL2413E GRN
FL301 BJ539GK DISPLAY
FL302 BJ504GK DISPLAY
FROM [A] MAIN C.B CON601
I-MS
TM/BASE
M-CLK
M-DATA
TUNE/IFC
STEREO
M-STB
D-MUTE
NC
PLL-CE
CROM1
CROM2
HSP
D-POWER
FILZ
FIL1
HOLD
G (D)
+VM
-VFL
SURR MUTE
MIC
TO IN LCH RCH
TO OUT LCH RCH
G (A)
VCC
IC380 BA3834S
SPECTRUM ANALYZER
Q301 DTC114 YK
Q302 DTC114 YK
Q303 DTC114 YK
Q304 DTC114 YK
Q306 DTC114 YK
D303 DAP202K
Q301～304, Q306 KEY-CONTROL SW
TAPE
POWER
DEMO
GEQ
DOLBY
REV MODE
EDIT
REC
DSP OFF
DISCO
ECHO
VF
BBE
T-BASS
MEMO
JOG CHANGE
PRGM/ MANU (DSP)
HALL
MOVIE
FF
REW
PLAY
PRGM/ MANU (GEQ)
CLASSIC
JAZZ
POP
ROCK
CD
AUX
TUNER
D331 ～ D339
IC650 M65849FP
DSP/MIC ECHO
D650 UZL6M1
IC801 M62420SP
MAIN VOLUME
D801 1SS226
Q801 2SK368 GR
Q802 2SK368 GR
Q803 2SK368 GR
Q804 2SK368 GR
Q801～804 T-BASS CONTROL
IC751 (1/2) NJM2068MD AMP
IC751 (2/2) NJM2068MD
IC401～403 SERIAL DECODER
IC403 TC4094BF
IC402 TC4094BF
CLEAR
SET
DOWN
UP
DIRECTION PRESET
Q600 2SC3326
MIC LEVEL AGC
J601 MIC
J621
IC603 (1/2) NJM4558 MD
IC603 (2/2) NJM4558 MD
MIC AMP
MIC VOL
VR601 10K A
T-BASS
IC802 (1/2) NJM2068MD
IC802 (2/2) NJM2068MD
IC701 M62431FP
7 BAND G.E

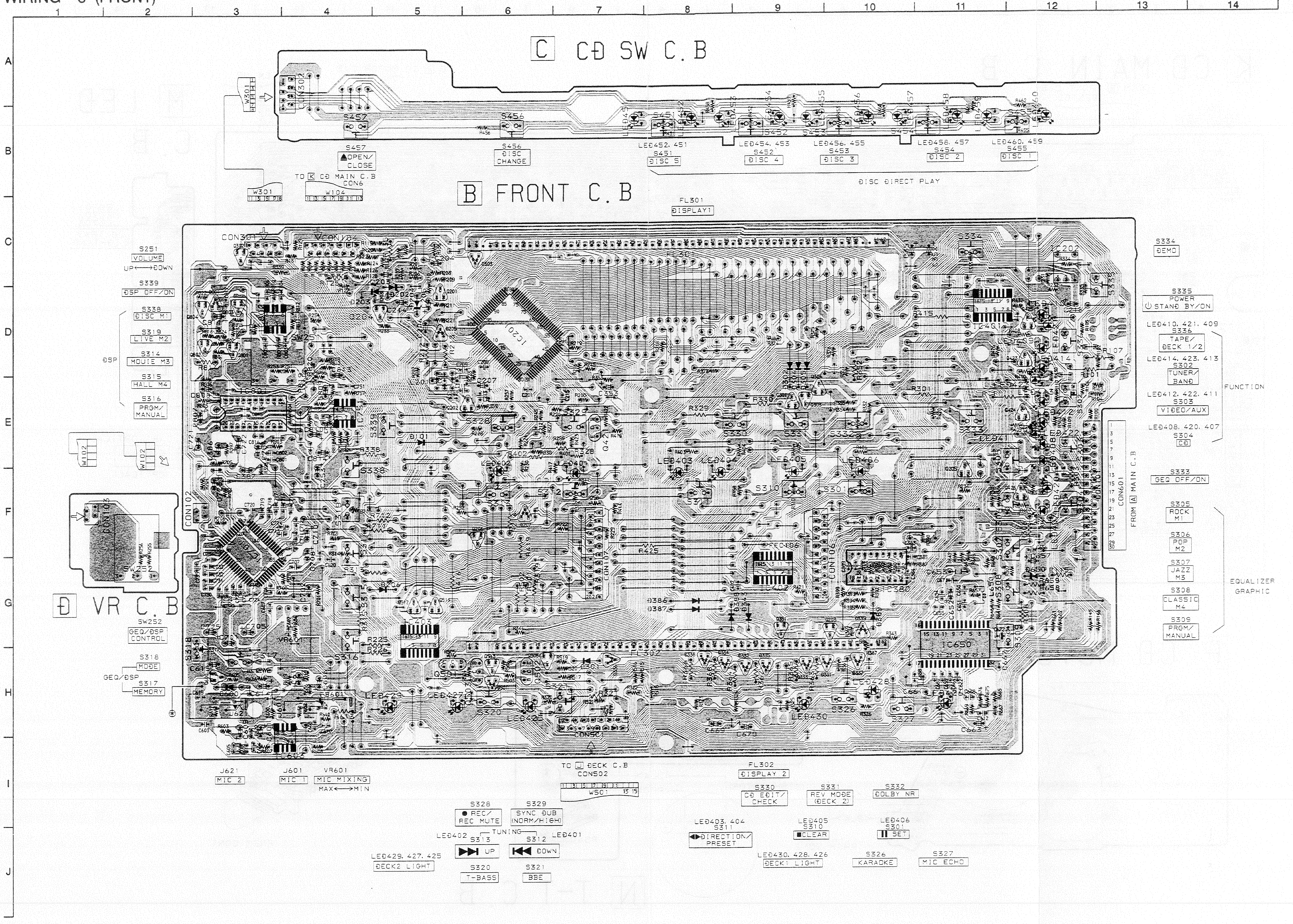
*1	LH/U	HE/HR	EZ/K
D342	×	×	○
D343	×	○	○
D344	×	×	×



SPEANA
MS
IC201
µPD780206GF-014-3
MICRO-COMPUTER
Q201 2SC2712GR
RESET
Q202 2SC2712 GR
CLOCK SHIFT
L201 4.19MHz
Q203 2SC2712 GR
Q203 TM-BASE SWITCH
REMOTE UNIT
IC202 SPS444-1
Q351 DTA143 EK
SCAN SW
REV MODE S331
EDIT S330
REC S329
DUBB S328
VF S326
BBE S321
T-BASS S320
LIVE S319
FF S313
REW S312
PLAY S311
STOP S310
CD S304
AUX S303
TUNER S302
PAUSE S301
KEY1
D331 ~ D339
KEY.SCAN
IC401 ~ 403
SERIAL DECODER
IC402 TC4094BF
IC401 TC4094BF
Q204 ~ 206
LEVEL SHIFT AND INVERT
Q204 DTC114 YK
MUTE
Q205 DTC114 YK
M-STB
Q206 DTC114 YK
F-STB
F-CLK
F-DAT
F-STB
SW251
VOLUME
D VR C.B
SW252
GEQ/DSP CONTROL
CON102
W102
CON103
CON104
EZ ONLY
D101 1SS108
CLK (CD)
XLT
DATA (CD)
SENS
LED ON
SUBQ CLK
SUBQ DATA
CD/SW
CLOSE
OPEN
O-DI/F
O-DI/R
I-DI-SENS
A VREF
TO K CD MAIN C.B CON6
M1
DECK MOTOR
CON501
W501
CON502
IC1, IC2
AUTO STOP
DN6851
MOTOR H-SPEED SW
Q1 2SA933S (RS)
SFR1 SPEED ADJ
J DECK C.B
LED403, 404 DIRECTION PRESET
CLEAR
SET
LED407, 408, 420
CD
Q423 ~ 426
FUNCTION LED SW
Q426 DTA124 EK
Q425 DTA124 EK
Q424 DTA124 EK
Q423 DTA124 EK
Q421 2SA1296GR
POWER SW
POWER ON: 12V
Q511 ~ 513
PRE DRIVER
Q513 DTC144 WK
Q512 DTC144 WK
Q511 DTC144 WK
Q503 2SA952 K
Q501 2SA952K
Q502 2SA1296 GR
D501 DAP202K
MOTOR
SOL2
SOL1
Q502 MOTOR DRIVER
Q501 DECK2 SOL DRIVER
Q503 DECK1 SOL DRIVER
LED401 ~ 406 LED SLZ736A-25-S-T
LED407 ~ 414 LED SEL2413E GRN
LED420 ~ 423 LED SLR-342VCT31 RED
LED425, 426, 429, 430 LED SLZ-738A-24-S PGRN
LED427, 428 LED SLZ-936C-30-S RED
LED411, 412, 422 VIDEO/AUX
LED413, 414, 423 TUNER/BAND
LED421, 409, 410 TAPE DECK 1/2
LED425, 427, 429 DECK2 LIGHT
LED426, 428, 430 DECK1 LIGHT
SIGNAL: ➜ PB

NOTE DIODE NO. MARK IS 1N4148M
ALL TACT SW IS EVQ11G04M

WIRING – 3 (FRONT)



1
2
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9
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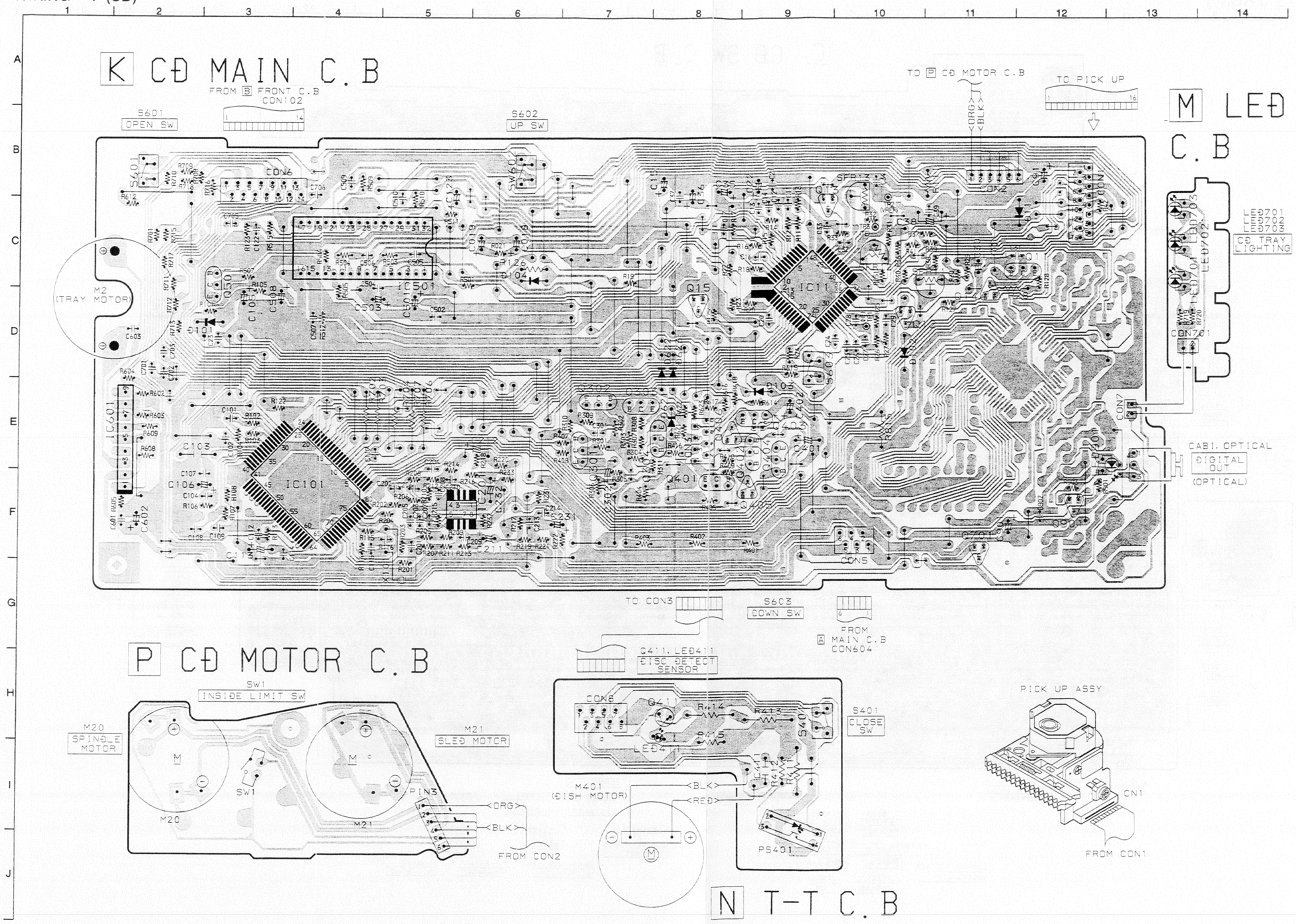
11
12
13
14
A
B
C
D
E
F
G
H
I
J
C CD SW C.B
B FRONT C.B
D VR C.B
CON302
W301
S457
S456
LED452. 451
S451
DISC 5
LED454. 453
S452
DISC 4
LED456. 455
S453
DISC 3
LED458. 457
S454
DISC 2
LED460. 459
S455
DISC 1
DISC DIRECT PLAY
S457
▲OPEN/CLOSE
S456
DISC CHANGE
TO K CD MAIN C.B CON6
W104
FL301
DISPLAY1
CON301
CON104
IC201
IC202
IC401
IC402
IC403
IC650
S251
VOLUME
UP←→DOWN
S339
DSP OFF/ON
S338
DISC M1
S319
LIVE M2
S314
MOVIE M3
S315
HALL M4
S316
PRGM/MANUAL
DSP
W102
CON102
CON103
SW252
GEQ/DSP CONTROL
S318
MODE
GEQ/DSP
S317
MEMORY
J621
MIC 2
J601
MIC 1
VR601
MIC MIXING
MAX←→MIN
TO J DECK C.B CON502
W501
FL302
DISPLAY 2
S330
CD EDIT/CHECK
S331
REV MODE (DECK 2)
S332
DOLBY NR
S328
● REC/REC MUTE
S329
SYNC DUB (NORM/HIGH)
TUNING
LED402
S313
▶▶I UP
S312
I◀◀ DOWN
LED401
LED429. 427. 425
DECK2 LIGHT
S320
T-BASS
S321
BBE
LED403. 404
S311
◀▶DIRECTION/PRESET
LED405
S310
■CLEAR
LED406
S301
II SET
LED430. 428. 426
DECK1 LIGHT
S326
KARAOKE
S327
MIC ECHO
S334
DEMO
S335
POWER
⏻ STAND BY/ON
LED410. 421. 409
S336
TAPE/DECK 1/2
LED414. 423. 413
S302
TUNER/BAND
LED412. 422. 411
S303
VIDEO/AUX
LED408. 420. 407
S304
CD
FUNCTION
CON601
FROM A MAIN C.B
S333
GEQ OFF/ON
S305
ROCK M1
S306
POP M2
S307
JAZZ M3
S308
CLASSIC M4
S309
PRGM/MANUAL
EQUALIZER GRAPHIC

WIRING – 4 (CD)


1
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12
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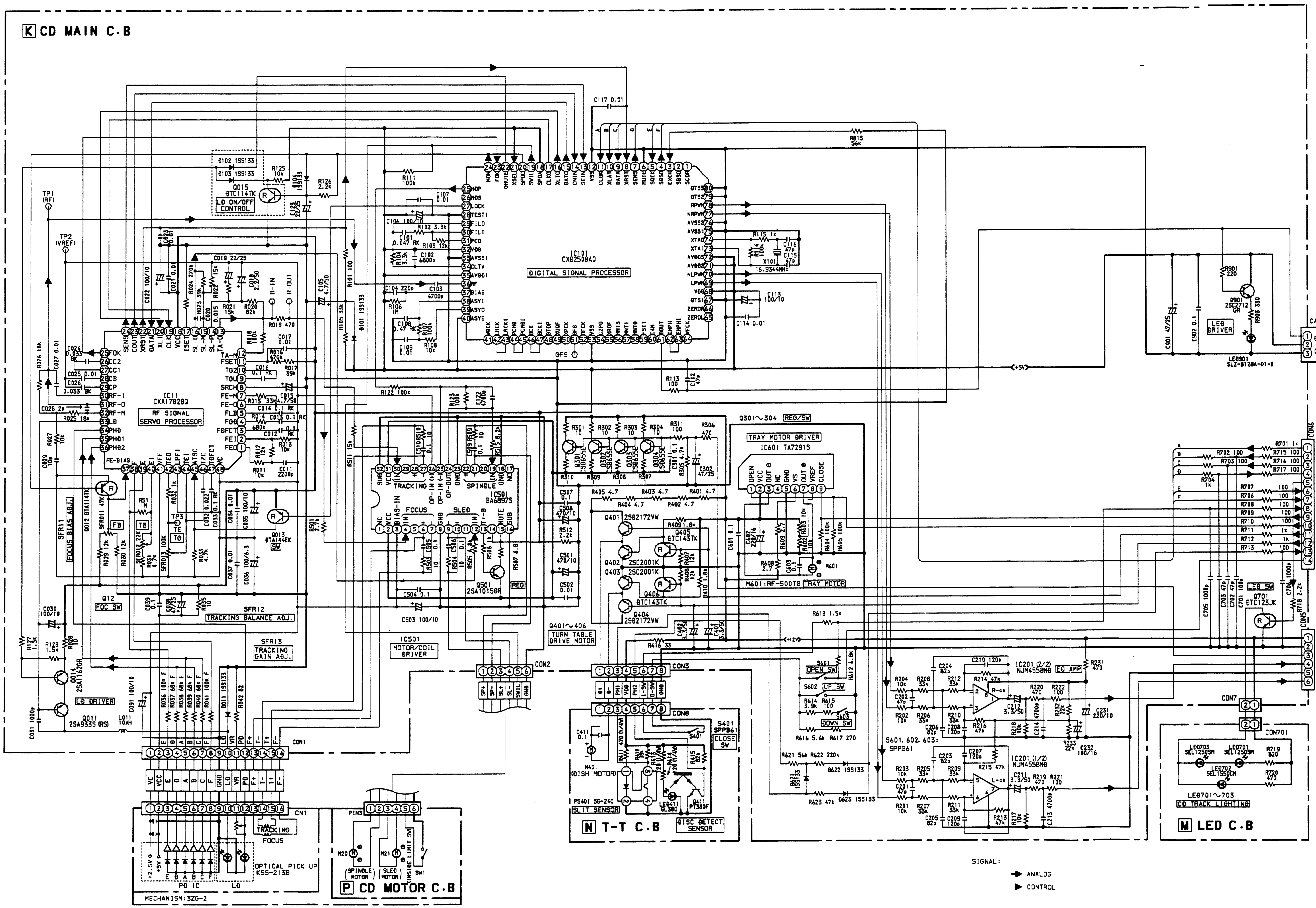
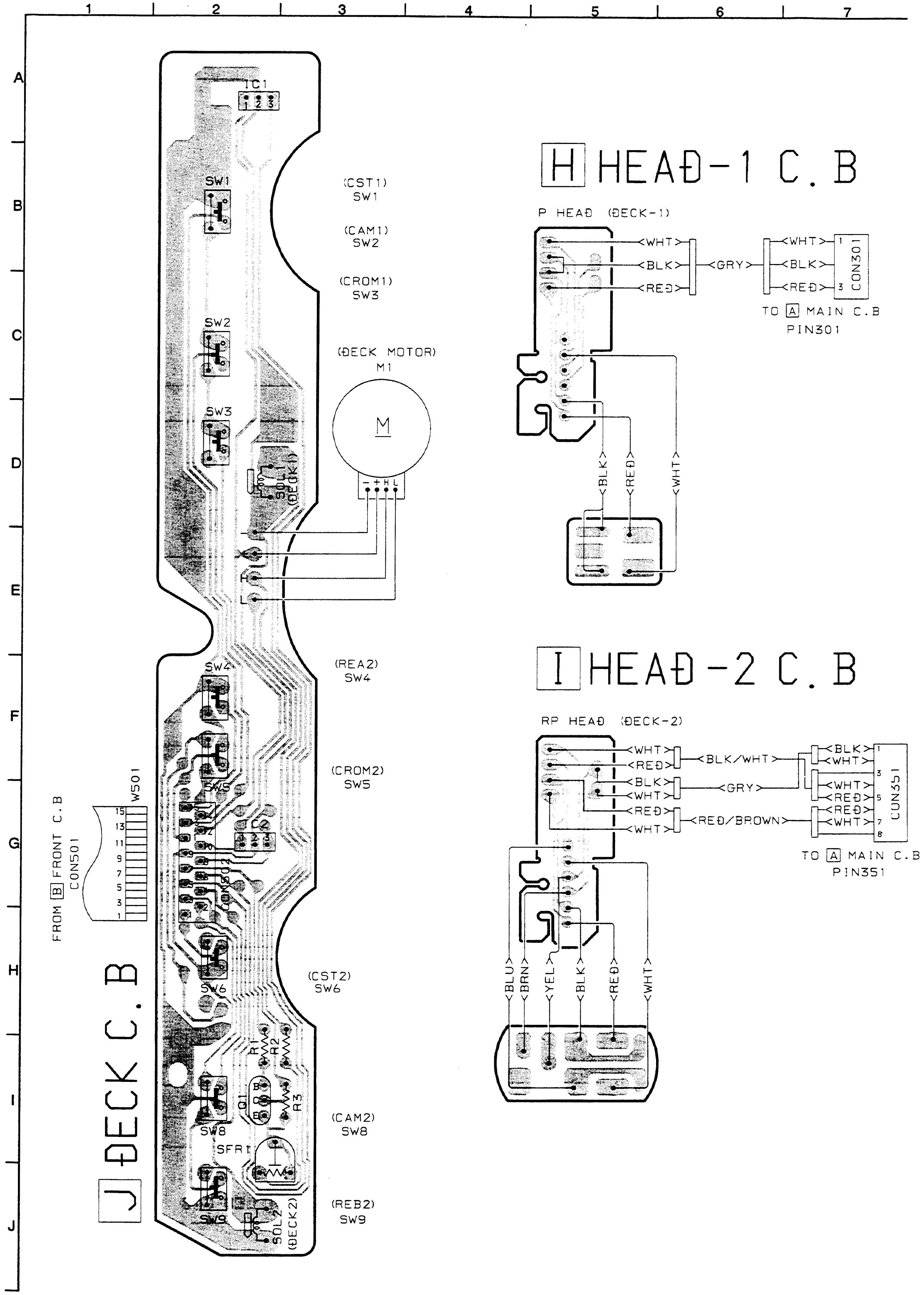
14
A
B
C
D
E
F
G
H
I
J
K CD MAIN C.B
FROM B FRONT C.B CON102
S601 OPEN SW
S602 UP SW
TO P CD MOTOR C.B
<ORG>
<BLK>
TO PICK UP
M LED C.B
LED701
LED702
LED703
CD TRAY LIGHTING
CON701
M2 (TRAY MOTOR)
CON6
CON2
CON1
CON7
CON5
IC501
IC11
IC101
IC601
Q15
CABI. OPTICAL
DIGITAL OUT
(OPTICAL)
TO CON3
S603 DOWN SW
FROM A MAIN C.B CON604
Q411, LED411 DISC DETECT SENSOR
P CD MOTOR C.B
SW1 INSIDE LIMIT SW
M20 SPINDLE MOTOR
M21 SLED MOTOR
M20
M21
SW1
PIN3
<ORG>
<BLK>
FROM CON2
CON8
Q411
R414
R413
R415
LED4
S401
S401 CLOSE SW
M401 (DISH MOTOR)
<BLK>
<RED>
PS401
N T-T C.B
PICK UP ASSY
CN1
FROM CON1

SCHEMATIC DIAGRAM – 4 (CD)


K CD MAIN C·B
IC101 CXD2508AQ
DIGITAL SIGNAL PROCESSOR
IC11 CXA1782BQ
RF SIGNAL SERVO PROCESSOR
IC501 BA6897S
IC501 MOTOR/COIL DRIVER
IC601 TA7291S
TRAY MOTOR DRIVER
Q301~304 REG/SW
Q401~406 TURN TABLE DRIVE MOTOR
IC201 (2/2) NJM4558MB EQ AMP
IC201 (1/2) NJM4558MB
Q015 DTC114TK LD ON/OFF CONTROL
Q014 2SA1162OR
Q011 2SA9335 (RS)
LD DRIVER
Q012 DTA114TK
Q013 DTA144EK SW
Q12 FOC SW
Q501 2SA1015GR REG
SFR11 FOCUS BIAS ADJ.
SFR12 TRACKING BALANCE ADJ.
SFR13 TRACKING GAIN ADJ.
TP1 (RF)
TP2 (VREF)
X101 16.9344MHz
Q901 2SC2712 GR
LED901 SLZ-8128A-01-B
LED DRIVER
CAB1. OPTICAL
DIGITAL OUT (OPTICAL)
Q701 DTC123JK
LED SW
FROM B FRONT C.B CON102
FROM A MAIN C.B CON604
M601: RF-500TB TRAY MOTOR
S601 OPEN SW
S602 UP SW
S603 DOWN SW
S401 SPPB61 CLOSE SW
M401 (DISH MOTOR)
PS401 SG-240 SLIT SENSOR
LED411 GL380
Q411 PT380F
DISC DETECT SENSOR
N T-T C·B
LED701~703 CD TRACK LIGHTING
M LED C·B
OPTICAL PICK UP KSS-213B
PD IC
LD
TRACKING
FOCUS
MECHANISM: 3ZG-2
M20 (SPINDLE MOTOR)
M21 (SLED MOTOR)
SW1 INSIDE LIMIT SW
P CD MOTOR C·B
CON1
CON2
CON3
CON5
CON6
CON7
CON8
CON701
CN1
SIGNAL:
ANALOG
CONTROL



1
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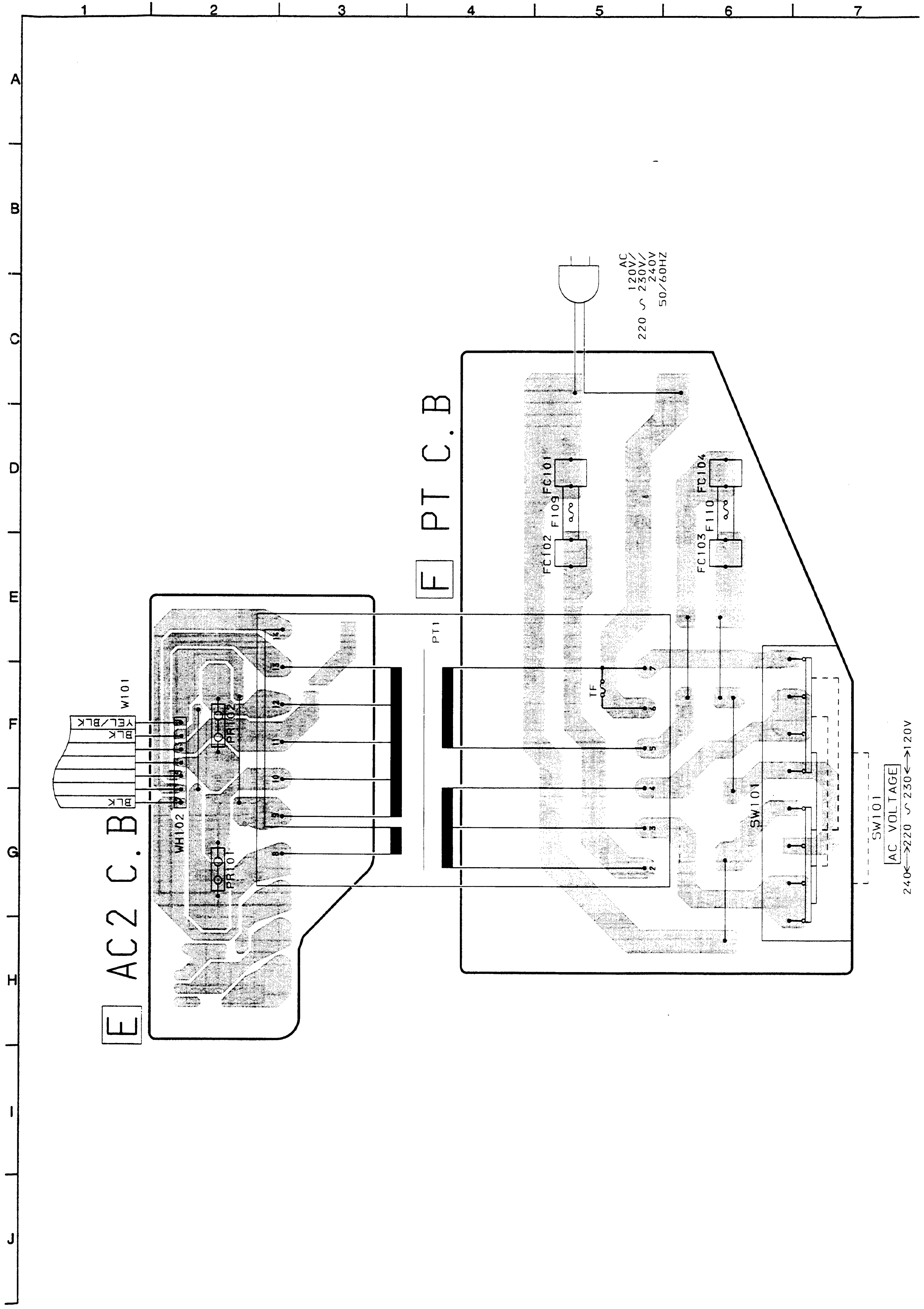
6
7
A
B
C
D
E
F
G
H
I
J
IC1
1 2 3
SW1
(CST1)
SW1
(CAM1)
SW2
(CROM1)
SW3
SW2
SW3
(DECK MOTOR)
M1
M
SOL1
(DECK1)
– + H L
H
L
SW4
(REA2)
SW4
(CROM2)
SW5
SW5
W501
FROM B FRONT C.B
CON501
15
13
11
9
7
5
3
1
J DECK C.B
SW6
(CST2)
SW6
R1
R2
Q1
R3
SW8
(CAM2)
SW8
SFR1
SOL2
(DECK2)
SW9
(REB2)
SW9
H HEAD-1 C.B
P HEAD (DECK-1)
<WHT>
<BLK>
<RED>
<GRY>
<WHT>
<BLK>
<RED>
1
3
CON301
TO A MAIN C.B
PIN301
<BLK>
<RED>
<WHT>
I HEAD-2 C.B
RP HEAD (DECK-2)
<WHT>
<RED>
<BLK>
<WHT>
<RED>
<WHT>
<BLK/WHT>
<GRY>
<RED/BROWN>
<BLK>
<WHT>
<WHT>
<RED>
<RED>
<WHT>
1
3
5
7
8
CON351
TO A MAIN C.B
PIN351
<BLU>
<BRN>
<YEL>
<BLK>
<RED>
<WHT>



1
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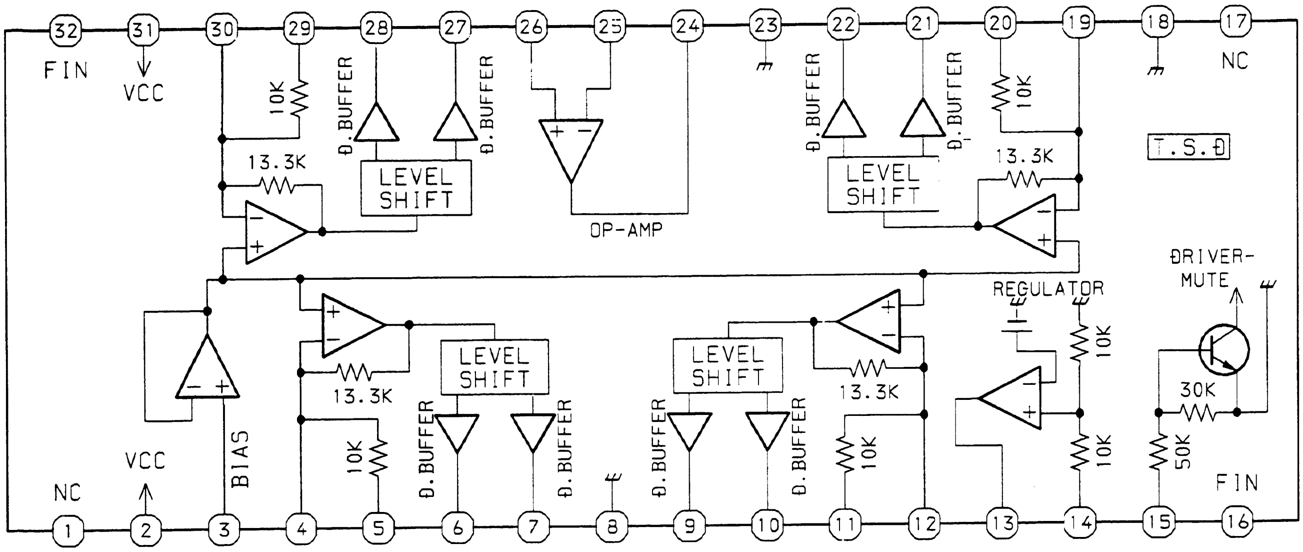
7
A
B
C
D
E
F
G
H
I
J
AC
120V/
220 ∽ 230V/
240V
50/60HZ
F PT C.B
FC101
F109
FC102
FC104
F110
FC103
PT1
TF
SW101
SW101
AC VOLTAGE
240←220 ∽ 230→120V
E AC2 C.B
W101
YEL/BLK
BLK
BLK
WH102
PR102
PR101

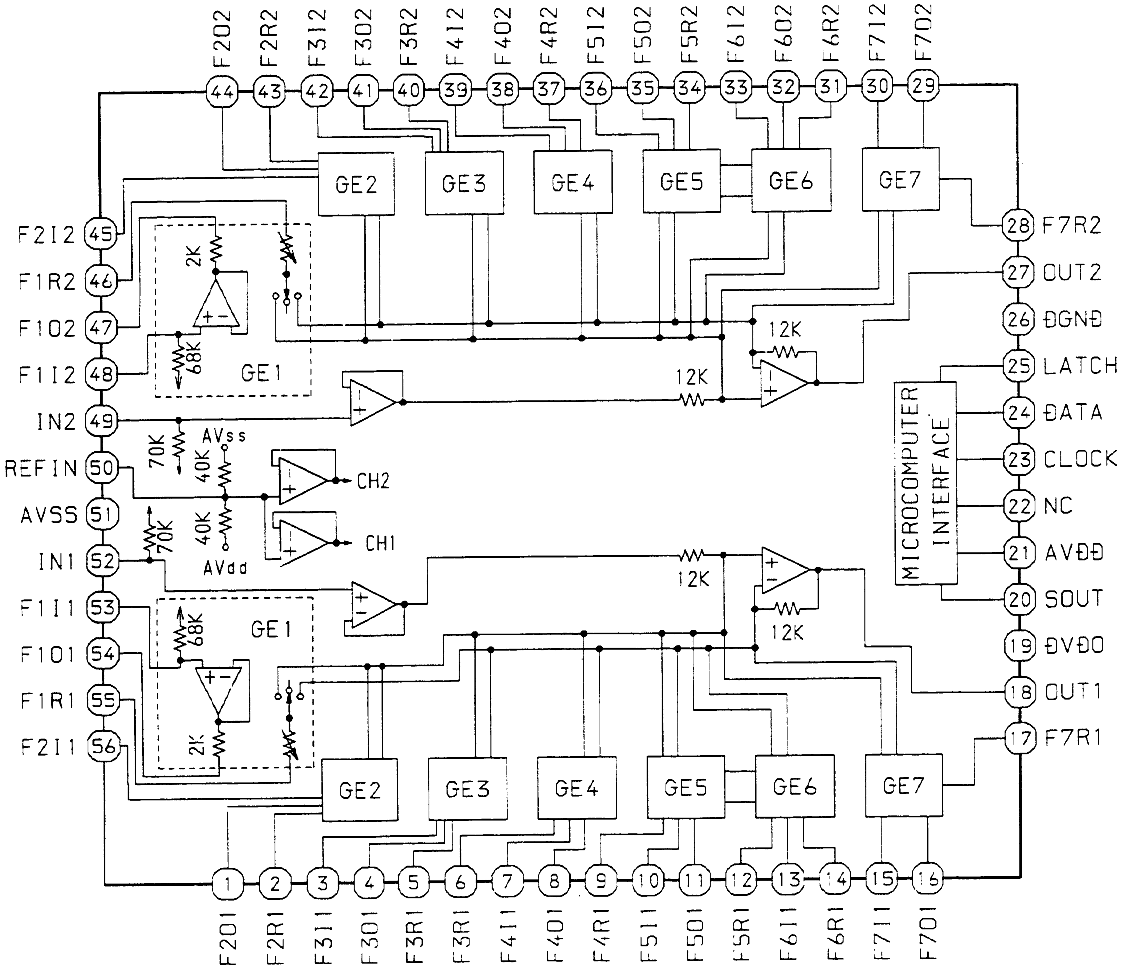
IC BLOCK DIAGRAM – 2

IC, BA6897S

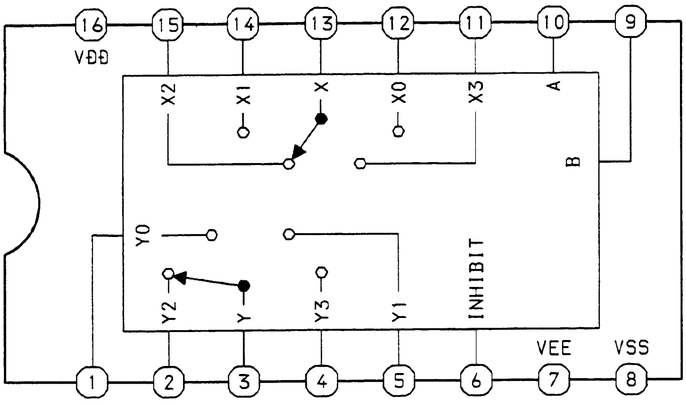

32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17
FIN
VCC
10K
D.BUFFER
D.BUFFER
D.BUFFER
D.BUFFER
10K
NC
13.3K
LEVEL SHIFT
OP-AMP
LEVEL SHIFT
13.3K
T.S.D
DRIVER-MUTE
REGULATOR
LEVEL SHIFT
LEVEL SHIFT
13.3K
13.3K
10K
10K
30K
10K
50K
10K
VCC
BIAS
D.BUFFER
D.BUFFER
D.BUFFER
D.BUFFER
NC
FIN
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

T.S.D: THERMAL SHUT DOWN CIRCUIT
D.BUFFER: DRIVE BUFFER

IC, M62431FP


F202 F2R2 F312 F302 F3R2 F412 F402 F4R2 F512 F502 F5R2 F612 F602 F6R2 F712 F702
44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29
GE2 GE3 GE4 GE5 GE6 GE7
F2I2 45
F1R2 46
F1O2 47
F1I2 48
IN2 49
REFIN 50
AVSS 51
IN1 52
F1I1 53
F1O1 54
F1R1 55
F2I1 56
2K
68K
GE1
12K
12K
70K
40K
AVss
CH2
CH1
40K
70K
AVdd
12K
12K
68K
GE1
2K
MICROCOMPUTER INTERFACE
28 F7R2
27 OUT2
26 DGND
25 LATCH
24 DATA
23 CLOCK
22 NC
21 AVDD
20 SOUT
19 DVDD
18 OUT1
17 F7R1
GE2 GE3 GE4 GE5 GE6 GE7
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
F201 F2R1 F311 F301 F3R1 F3R1 F411 F401 F4R1 F511 F501 F5R1 F611 F6R1 F711 F701

IC, M65849FP

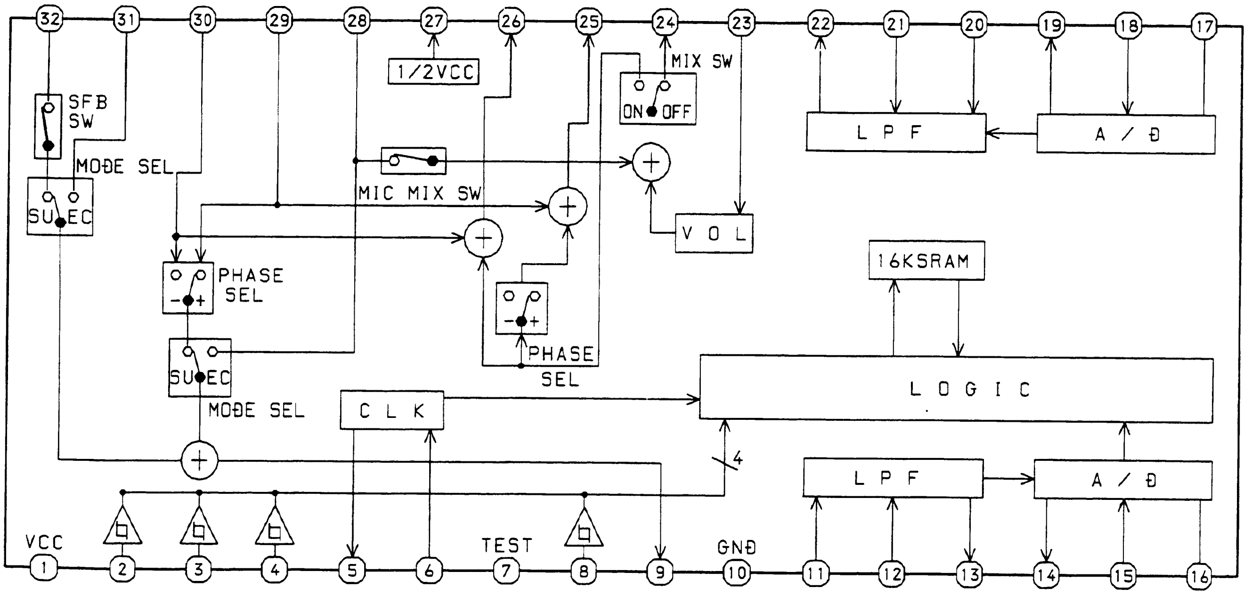

16
15
14
13
12
11
10
9
VDD
X2
X1
X
X0
X3
A
B
Y0
Y2
Y
Y3
Y1
INHIBIT
VEE
VSS
1
2
3
4
5
6
7
8

TRUTH TABLE

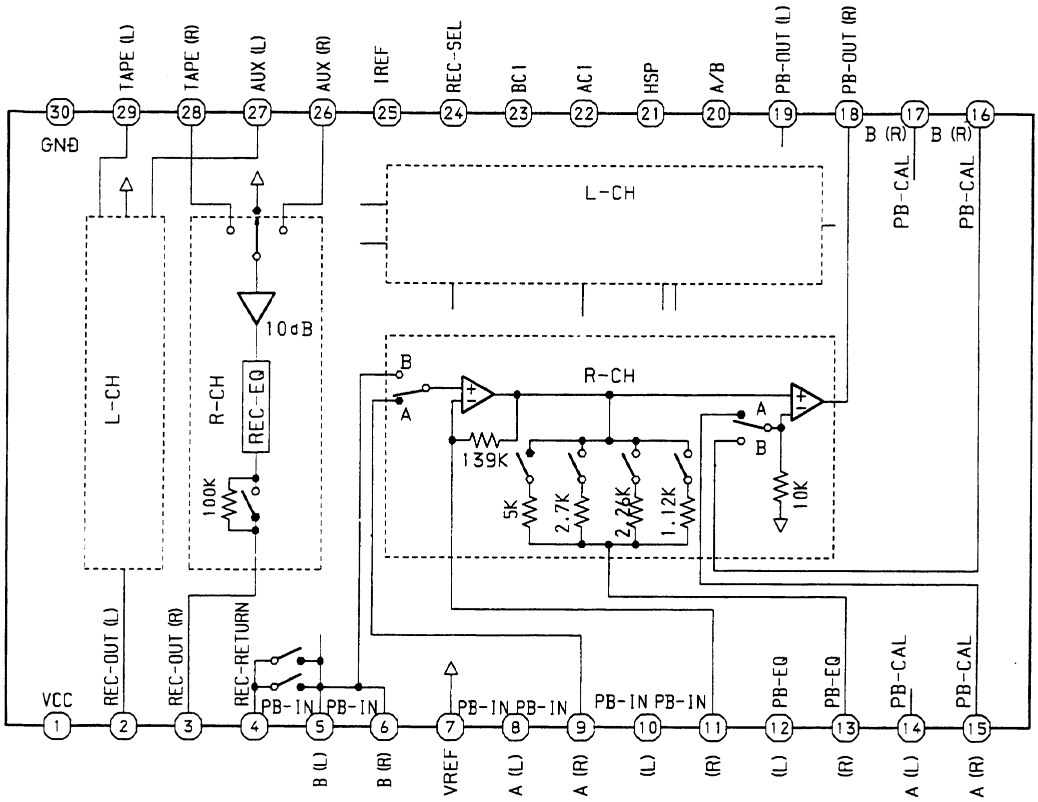
CONTROL INPUTS			ON SWITCH	
INHIBIT	B	A		
L	L	L	Y0	X0
L	L	H	Y1	X1
L	H	L	Y2	X2
L	H	H	Y3	X3
H	X	X′	—	—

L:LOW LEVEL
H:HIGH LEVEL
H:IRRELEVANT

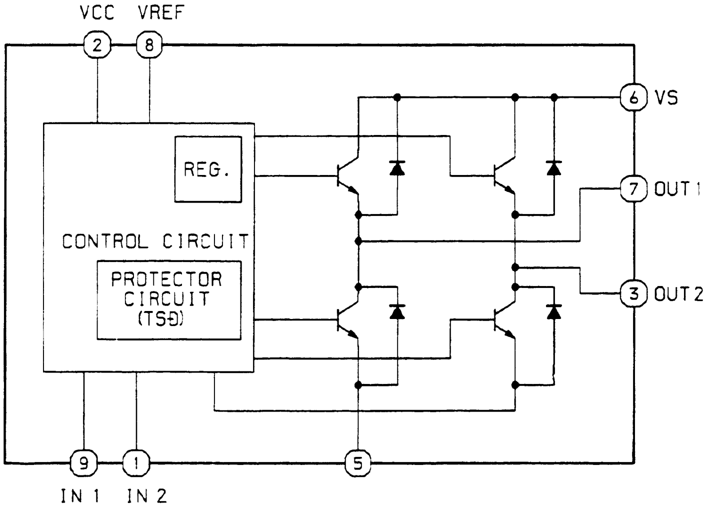
IC, TC4052BP


32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
1/2VCC
MIX SW
ON
OFF
SFB
SW
MODE SEL
SU
EC
MIC MIX SW
+
V O L
L P F
A / D
16KSRAM
PHASE
SEL
-
+
PHASE
SEL
SU
EC
MODE SEL
C L K
L O G I C
4
L P F
A / D
VCC
TEST
GND
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

IC, HA12185NT


GND
30
TAPE (L)
29
TAPE (R)
28
AUX (L)
27
AUX (R)
26
IREF
25
REC-SEL
24
BC1
23
AC1
22
HSP
21
A/B
20
PB-OUT (L)
19
PB-OUT (R)
18
17
B (R)
16
B (R)
PB-CAL
PB-CAL
L-CH
L-CH
R-CH
10dB
REC-EQ
100K
B
A
R-CH
139K
5K
2.7K
2.26K
1.12K
A
B
10K
VCC
1
REC-OUT (L)
2
REC-OUT (R)
3
REC-RETURN
4
PB-IN
5
PB-IN
6
7
PB-IN
8
PB-IN
9
PB-IN
10
PB-IN
11
PB-EQ
12
PB-EQ
13
PB-CAL
14
PB-CAL
15
B (L)
B (R)
VREF
A (L)
A (R)
(L)
(R)
(L)
(R)
A (L)
A (R)

IC, TA7291

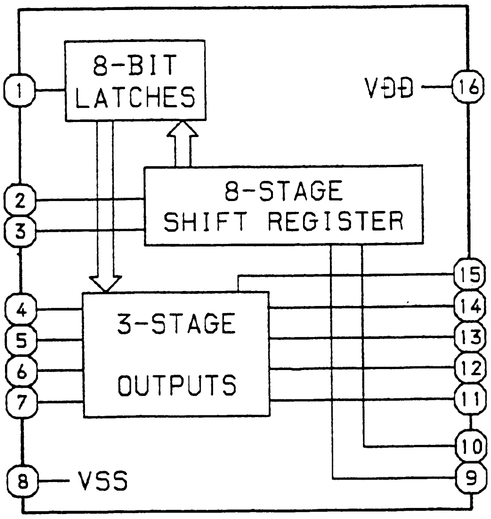

VCC
VREF
2
8
REG.
CONTROL CIRCUIT
PROTECTOR
CIRCUIT
(TSD)
6
VS
7
OUT 1
3
OUT 2
9
1
5
IN 1
IN 2

TRUTH TABLE

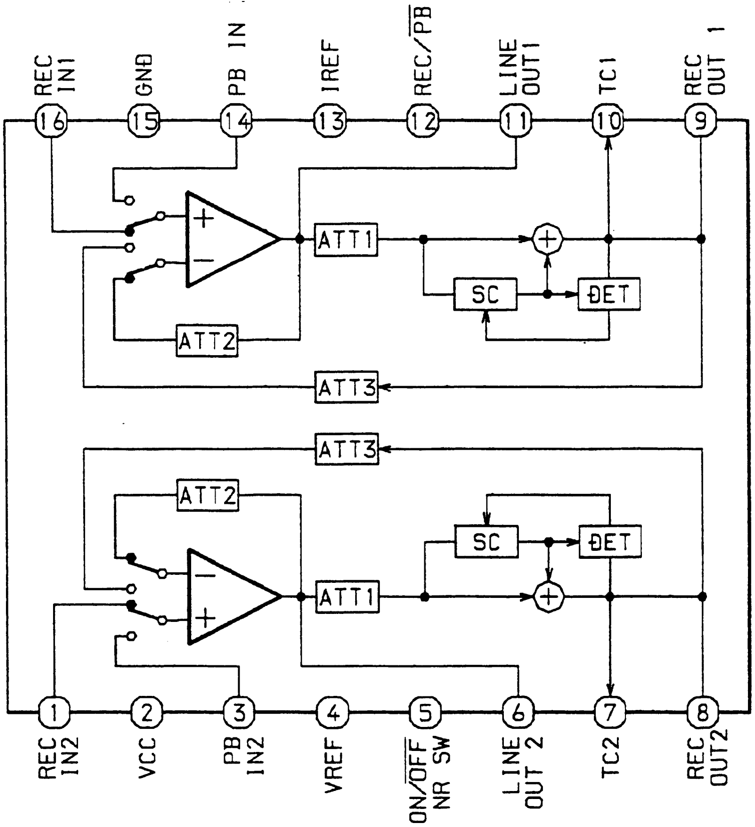
INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	CW
0	1	L	H	CCW
1	1	L	L	BRAKE

∞ : HI IMPEDANCE
NOTE : INPUT "H" ACTIVE

IC, TC4094BP

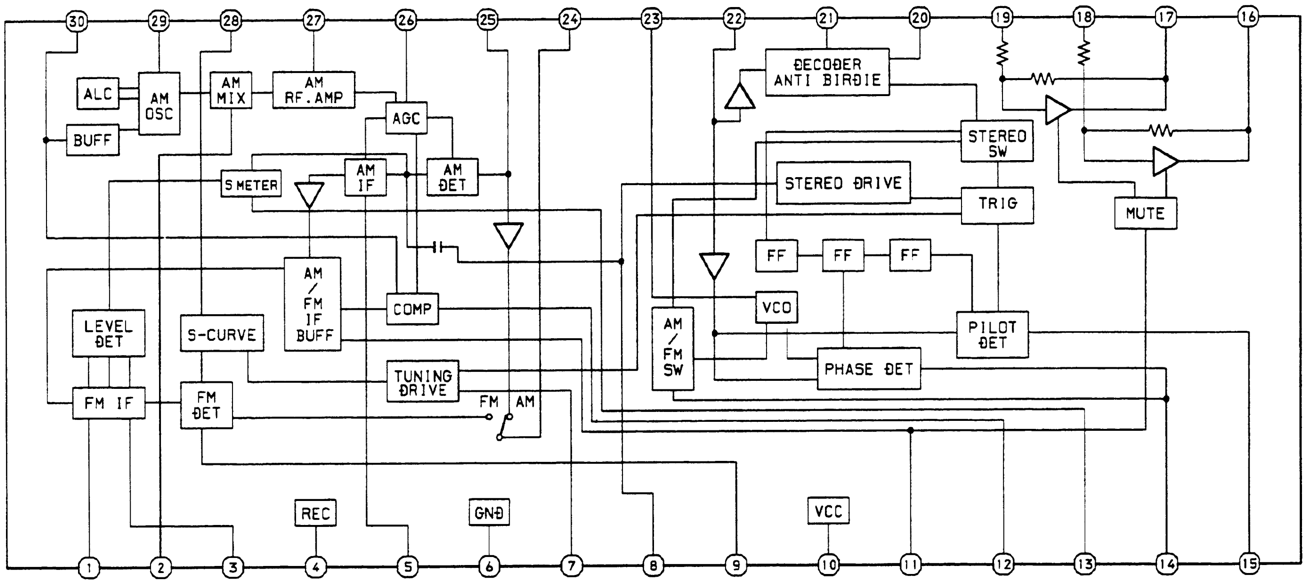

8-BIT LATCHES
8-STAGE SHIFT REGISTER
3-STAGE OUTPUTS
VDD
VSS
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

IC, CXA1553P


REC IN1
GND
PB IN
IREF
REC/$\overline{PB}$
LINE OUT1
TC1
REC OUT 1
16
15
14
13
12
11
10
9
+
−
ATT1
ATT2
ATT3
SC
DET
ATT3
ATT2
SC
DET
−
+
ATT1
1
2
3
4
5
6
7
8
REC IN2
VCC
PB IN2
VREF
ON/$\overline{OFF}$ NR SW
LINE OUT 2
TC2
REC OUT2

ATT:Attenuator
SC:Side Chain
DET:Detector

IC, LA1836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19
18
17
16
ALC
AM OSC
BUFF
AM MIX
AM RF.AMP
AGC
S METER
AM IF
AM DET
DECODER ANTI BIRDIE
STEREO SW
STEREO DRIVE
TRIG
MUTE
FF
FF
FF
AM / FM IF BUFF
COMP
LEVEL DET
S-CURVE
VCO
AM / FM SW
PILOT DET
PHASE DET
FM IF
FM DET
TUNING DRIVE
FM
AM
REC
GND
VCC
1
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3
4
5
6
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8
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15

IC DESCRIPTION

IC, CXA1782BQ

Pin No.	Pin Name	I/O	Description
1	FEO	O	Focus error amplifier output pin. This pin is connected to the FZC comparator input internally.
2	FEI	I	Focus error input pin.
3	FDFCT	I	Capacitor connection pin for time constant used when there is defect.
4	FGD	I	Corrects the focus servo high frequency gain.
5	FLB	I	This is a pin where the time constant is externally connected to raise the low frequeny gain of the focus servo.
6	FEO	O	Focus drive output.
7	FEM	I	Focus amplifier inverted input pin.
8	SRCH	I	This is a pin where the time constant is externally connected to generate the focus search waveform.
9	TGU	I	This is a pin where the selection time constant is externally connected to set the tracking servo the high frequency gain.
10	TG2	I	This is a pin where the selection time constant is externally connected to set the tracking high frequency gain.
11	FSET	I	Pin for setting peak of the phase compensator of the focus tracking.
12	TAM	I	Tracking amplifier inverted input pin.
13	TAO	O	Tracking drive output.
14	SLP	I	Sled amplifier non-inverted input pin.
15	SLM	I	Sled amplifier inverted input pin.
16	SLO	O	Sled drove output.
17	ISET	I	The current which determines height of the focus search, track jump and sled kick is input.
18	VCC	-	+5V power supply pin.
19	CLK	I	Serial data transfer clock input from CPU (CXD2518Q).
20	XLT	I	Latch input from CPU (CXD2518Q).
21	DATA	I	Serial data input from CPU (CXD2518Q).
22	XRST	I	Reset input pin. Reset at L.
23	COUT	O	Signal output to count the number of tracks.
24	SENS	O	FZC, DFCT, TZC, Gain or BAL is output depending on the command to CPU (CXD2518Q).
25	FOK	O	Output pin of the focus OK comparator.
26	CC2	O	Input pin where the DEFECT bottom hold output is capacitance coupled.
27	CC1	I	DEFECT bottom hold output pin.
28	CB	I	This is a pin where the DEFECT bottom hold capacitor is connected.
29	CP	I	This is a pin where the MIRR hold capacitor is connected and MIRR comparator non-inverted signal is input.
30	RFI	I	Input pin where the RF summing amplifier output is capacitance coupled.
31	RFO	O	RF summing amplifier output pin. (TP1)
32	RFM	I	RF summing amplifier inverted input pin. Gain of RF amplifier is determined by the resistor connected between RFO and this pin.

Pin No.	Pin Name	I/O	Description
33	LD	O	APC amplifier output pin.
34	PHD	I	APC amplifier input pin.
35~36	PHD1~2	I	RF I-V amplifier inverted input pin. These pins are connected to the A+C and B+D pins of the optical pickup.
37	BIAS	I	Bias adjustment pin of the non-inverted side of the focus error amplifier.
38~39	F-E	I	F and E IV amplifier non-inverted input pins. These pins are connected to the F and E of the optical pickup.
40	EI	-	Gain adjustment pin of the I-V amplifier E.
41	VEE	-	GND connection pin.
42	TEO	O	Tracking error amplifier output pin.
43	LPFI	I	BAL adjustment comparator input pin.
44	TEI	I	Tracking error input pin.
45	ATSC	I	Window comparator input pin for detecting ATSC.
46	TZC	I	Tracking zero-cross comparator imput pin.
47	TDFCT	I	Capacitor connection pin for the time constant used when there is defect.
48	VC	O	DC voltage output pin of VREF. (VDD/2)

IC, CDX2508AQ

Pin No.	Pin Name	I/O	Description
1	SCOR	O	Outputs a high signal when either subcode sync S0 or S1 is detected.
2	SBSO	O	Sub P to W serial output.
3	EXCK	I	SBSO readout clock input.
4	SQSO	O	Sub Q 80-bit serial output.
5	SQCK	I	SQSO readout clock input.
6	MUTE	I	High: mute; low: release.
7	SENS	O	SENS output to CPU.
8	XRST	I	System reset. Reset when low.
9	DATA	I	Serial data input from CPU.
10	XLAT	I	Latch input from CPU. Serial data is latched at the falling edge.
11	CLOK	I	Serial data transfer clock input from CPU.
12	VSS	–	GND.
13	SEIN	I	Sense input from SSP.
14	CNIN	I	Track jump count signal input.
15	DATO	O	Serial data output to SSP.
16	XLTO	O	Serial data latch output to SSP. Latched at the falling edge.
17	CLKO	O	Serial data transfer clock output to SSP.
18	SPOA	I	Microcomputer extended interface (input A).
19	SPOB	I	Microcomputer extended interface (input B).
20	SPOC	I	Microcomputer extended interface (input C).
21	XTSL	I	Crystal selection input. Low for 16.9344MHz; high for 33.8688MHz.
22	XLON	O	Microcomputer extended interface (output).
23	FOK	I	Focus OK input. Used for SENS output and the servo auto sequencer.

Pin No.	Pin Name	I/O	Description
24	MON	O	Spindle motor on/off control output.
25	MDP	O	Spindle motor servo control.
26	MDS	O	Spindle motor servo control.
27	LOCK	O	GFS is sampled at 460Hz; when GFS is high, this pin outputs a high signal. If GFS is low eight consecutive samples, this pin outputs low.
28	TEST	I	TEST pin. Normally GND.
29	FILO	O	Master PLL (slave=digital PLL) filter output.
30	FILI	I	Master PLL filter input.
31	PCO	O	Master PLL charge pump output.
32	VDD	-	Digital power supply for DSP.
33	AVSS1	-	Analog GND for DSP.
34	CLTV	I	Master PLL VCO control voltage input.
35	AVDD1	-	Analog power supply for DSP.
36	RF	I	EFM signal input.
37	BIAS	I	Constant current input of asymmetry compensation circuit.
38	ASYI	I	Comparator voltage input of asymmetry compensation circuit.
39	ASYO	O	EFM full-swing output (low=VSS, high=VDD).
40	ASYE	I	Low: asymmetry compensation off; high: asymmetry compensation on.
41	WDCK	O	D/A interface for 48-bit slot. Word clock (2Fs).
42	LRCK	O	D/A interface for 48-bit slot. LR clock (Fs).
43	LRCKI	I	LR clock input for DAC. (48-bit slot)
44	PCMD	O	D/A interface. Serial data (two's complement, MSB first).
45	PCMDI	I	Audio data input for DAC. (48-bit slot)
46	BCK	O	D/A interface. Bit clock.
47	BCKI	I	Bit clock input for DAC. (48-bit slot)
48	GTOP	O	CTOP output.
49	XUGF	O	XUGF output.
50	XPCK	O	XPLCK output.
51	GFS	O	GFS output.
52	RFCK	O	RFCK output.
53	VSS	-	GND.
54	C2PO	O	C2PO output.
55	XROF	O	ARAOF output.
56	MNT3	O	MNT3 output.
57	MNT1	O	MNT1 output.
58	MNT0	O	MNT0 output.
59	FSTT	O	2/3 frequency-divider output for Pins 73 and 74.
60	C4M	O	4.2336MHz output.
61	DOUT	O	Digital Out output.
62	EMPH	O	Outputs high signal when the playback disc has emphasis, low signal when no emphasis.
63	EMPHI	I	DAC de-emphasis on/off. High: on; low: off.

Pin No.	Pin Name	I/O	Description
64	WFCK	O	WFCK (write frame clock) output.
65	ZEROL	O	No-sound data detection output; high when no sound data is detected. (Left channel)
66	ZEROR	O	No-sound data detection output; high when no sound data is detected. (Right channel)
67	DTS1	I	Test pin 1 for DAC; normally low.
68	VDD	-	Digital power supply for DAC.
69	NLPWM	O	Left channel PWM output. (Reverse phase)
70	LPWM	O	Left channel PWM output. (Forward phase)
71	AVDD2	-	Power supply for left channel PWM driver.
72	AVDD3	-	Power supply for crystal.
73	XTAI	I	33.8688MHz crystal oscillation circuit input.
74	XTAO	O	33.8688MHz crystal oscillation circuit output.
75	AVSS3	-	GND for crystal.
76	AVSS2	-	GND for PWM driver.
77	NRPWM	O	Right channel PWM output. (Reverse phase)
78	RPWM	O	Right channel PWM output. (Forward phase)
79	DTS2	I	DAC test pin 2; normally low.
80	DTS3	I	DAC test pin 3; normally low.

IC, UPD780206GF-014-3BA

Pin No.	Pin Name	I/O	Description
1	VDD	–	Power supply input.
2	O-CLOSE	O	CD tray close data output.
3	O-OPEN	O	CD tray open data output.
4	O-DI/R	O	CD turntable reverse rotation output.
5	O-DI/F	O	CD turntable forward rotation output.
6	O-MOTOR	O	Deck motor output.
7	O-SOL2	O	DECK2 solenoid output (DECK2).
8	O-SOL1	O	DECK1 solenoid output (DECK1).
9	O-SW SCAN	O	Switch scan timing output.
10	RESET	I	Reset input.
11,12	X1,X2	I/O	4.19MHz oscillator circuit.
13	VSS	–	GND.
14	XT2	–	N.C.
15	HOLD	I	Power failure detected input "L"to stop lock and maintain memory.
16	VDD	–	Power supply input.
17	DATA (CD)	O	DATA(CD) output.
18	O-XLT(CD)/I-RDDA	I/O	XLT(CD) output/ RDS data input (tuner).
19	O-CLK(CD)	O	CLOCK (CD) output.
20	I-MS	I	Deck music sensor signal input.

Pin No.	Pin Name	I/O	Description
21	O-SUBQ CLK(CD) /I-TUNER/IFC	I/O	SUBQ CLOCK(CD) output /tuner SD detected input. IF count serial data input.
22	O-M/STB	O	Main shift register data latch strobe output.
23	O-F/STB	O	Front shift register data latch strobe output.
24	O-MUTE	O	System mute output.
25	VSS	–	GND.
26	I-KEY3	I	Key input 3 (A/D).
27	I-DI-SENS	I	CD turntable photo sensor A/D converter input.
28	I-RD SG	I	RDS signal input (tuner).
29	I-CD/SW	I	CD mechanical switch A/D converter input.
30	I-SPEANA	I	A/D input for spectrum analyzer display.
31	I-MIC	I	Microphone input for auto V/F display.
32	I-KEY2	I	Key input 2 (A/D).
33	I-KEY1	I	Key input 1 (A/D).
34	VDD	–	Power supply input.
35	A VREF	I	A/D Reference voltage input.
36	I/O E.VR	I/O	I ^{2}C Bus data for electrical voltage.
37	SENS/I-STEREO	I	CD.SENS input/tuner stereo detected input.
38	I-SUBQ DATA /I-RDS CLK	I	CD.SUB-Q input/ RDS clock input(tuner)
39	I-RMC	I	System remote control signal input.
40	VSS	–	GND.
41	O-M/CLK	O	Main shift register, PLL/KEY CONTROL/DSP related clock.
42	O-M/DATA	O	Main shift register, PLL/KEY CONTROL/DSP related data output.
43	O-F/CLK	O	Front shift register,data transfer clock output.
44	O-F/DATA	O	Front shift register,data output.
45	O-POWER	O	Power on signal output.
46	VDD	–	Power supply input.
47	O-GE LATCH	O	G.E data latch strobe output.
48	O-PLL CE	O	PLL IC chip enable.
49	S40/I-H.PHONE	I/O	FL segment output S40, head phone switch data input.
50	S39/I-KCON	I /O	FL segment output S39, key con mode data input to diode.
51	S38/I-NTSC/PAL	I /O	FL segment output S38, NTSC/PAL mode data input to diode.
52	S37/I-TU2	I /O	FL segment output S37, tuner model select mode DATA2 input to diode.
53	S36/I-TU1	I/O	FL segment output S36, tuner model select mode DATA1 input to diode.
54	S35/I-TMBASE	I/O	FL segment output S35, reference clock input for timer watch.
55	S34/I-REA	I/O	FL segment output S34, DECK2 side-A record OK switch data input.
56	S33/I-CST1	I/O	FL segment output S33, DECK1 cassette detect switch data input.
57	S32/I-CAM1	I/O	FL segment output S32, DECK1 cam switch data input.
58	S31/I-AUTO2	I/O	FL segment output S31, DECK2 auto stop signal input.
59	S30/I-AUTO1	I/O	FL segment output S30, DECK1 auto stop signal input.
60	S29/I-CAM2	I/O	FL segment output S29, DECK2 cam switch data input.

Pin No.	Pin Name	I/O	Description
61	S28/I-$\overline{\text{REB}}$	I/O	FL segment output S28, DECK2 side-B record OK switch data input.
62	S27/I-$\overline{\text{CST2}}$	I/O	FL segment output S27, DECK2 cassette detect switch data input.
63	S26/O-KSCAN5	O	FL segment output S26, key scan 5 output.
64	S25/O-KSCAN4	O	FL segment output S25, key scan 4 output.
65	S24/O-KSCAN2	O	FL segment output S24, key scan 2 output.
66	S23/O-KSCAN3	O	FL segment output S23, key scan 3 output.
67	S22/O-KSCAN1	O	FL segment output S22, key scan 1 output.
68	21/O-SPEANA.A	O	FL segment output S21, SPEANA band changing A output.
69	S20/O-SPEANA.B	O	FL segment output S20, SPEANA band changing B output.
70	S19/O-SPEANA.C	O	FL segment output S19, SPEANA band changing C output.
71~78	S18-S11	O	FL segment output S18~S11.
79	VP	-	Power supply input for FL display.
80~89	S10~S1	O	FL segment output S10~S1.
90~100	G11~G1	O	FL grid output G11~G1.

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity : (THD 3%)	3dB ± 6dB [at 87.5 / 98.0 / 108.0MHz]
S/N 50dB Quieting sensitivity :	Less than 36dB [at 87.5 / 98.0 / 108.0MHz]
Signal to noise ratio :	More than 67dB [at 98.0MHz]
Distortion :	Less than 2% [at 98.0MHz]
Auto stop level :	20dB ± 5dB [at 98.0MHz]
Stereo separation :	More than 25dB [at 98.0MHz]
Intermediate frequency :	10.7MHz

<AM(MW) SECTION>

Sensitivity : (S/N 20 dB)	52 ~ 62dB [at 603kHz (HE)] [at 600kHz (LH)] 48 ~ 58dB [at 999kHz (HE)] [at 1000kHz (LH)] 48 ~ 58dB [at 1404kHz (HE)] [at 1400kHz (LH)]
Signal to noise ratio :	More than 36dB [at 999kHz (HE)] [at 1000kHz (LH)]
Distortion :	Less than 1.5% [at 999kHz (HE)] [at 1000kHz (LH)]
Auto stop level :	53dB ± 13dB [at 999kHz (HE)]
Intermediate frequency :	450kHz

<SW SECTION>(HE)

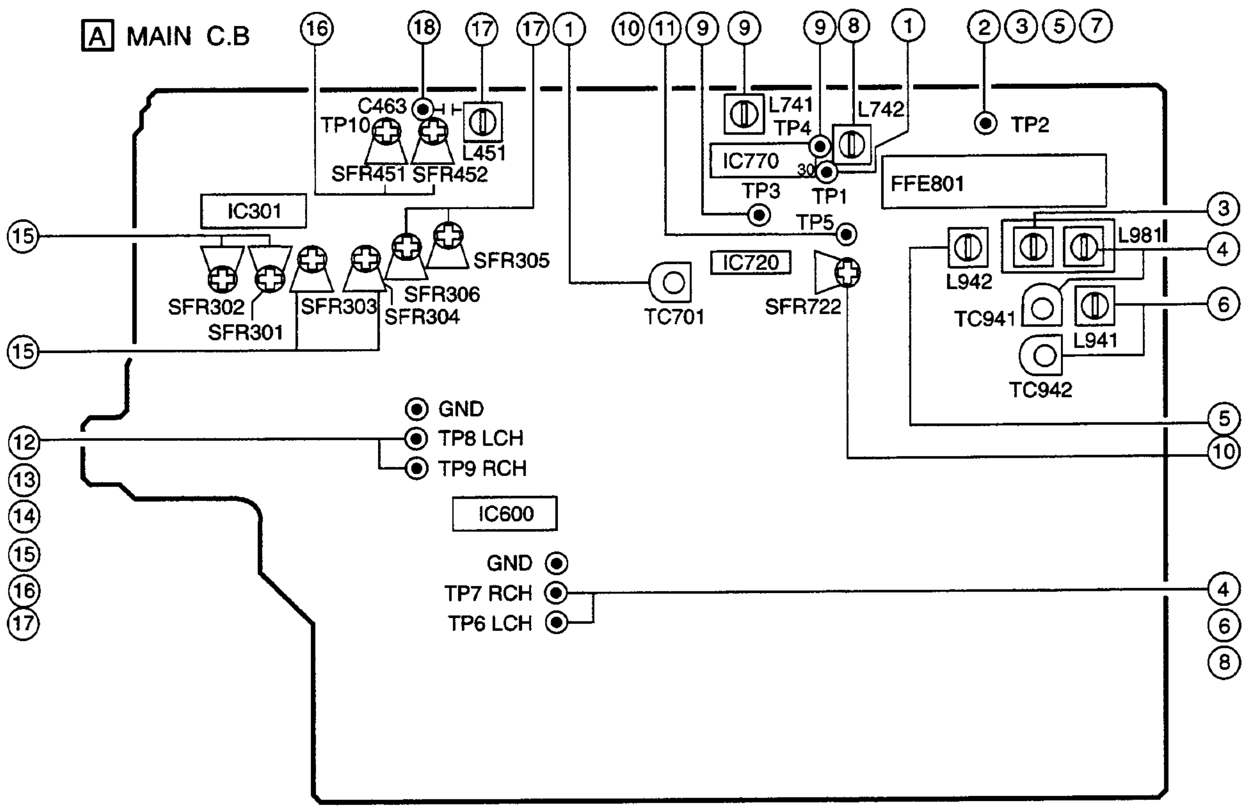
Sensitivity : (S/N 20dB)	33 ~ 43dB (5.90MHz) 27 ~ 37dB (12.0MHz) 25 ~ 35dB (17.9MHz)
Distortion :	Less than 2.0% (12.0MHz)
Intermediate frequency :	450kHz

<DECK SECTION>

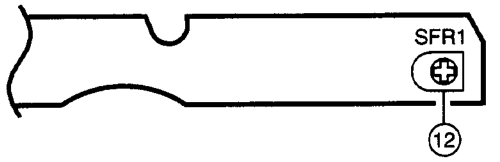
Tape speed :	3000Hz ± 45Hz
Wow & flutter :	Less than 0.21% (R.M.S)
Take-up torque :	30 ~ 55g-cm (FWD, REV)
F.F & REW torque :	75 ~ 160g-cm
Back tension :	2 ~ 7g-cm (FWD, REV)
PB output level :	300mV± 1dB (SP OUT 2V)
REC/PB output level :	180mV ± 1dB (SP OUT 2V)
Distortion (REC/PB) :	Less than 2.0% (NORM, CrO2)
Noise level (PB) :	Less than 1.8mV (NORM, SP OUT 2V, DOLBY OFF) Less than 1.1mV (CrO2, SP OUT 2V, DOLBY B,C ON)
Noise level (REC/PB) :	Less than 2.0mV (NORM, SP OUT 2V, DOLBY OFF) Less than 1.2mV (CrO2, SP OUT 2V, DOLBY B,C ON)
Crosstalk :	More than 60dB (1kHz, 0VU)
Channel separation :	More than 30dB (1kHz, 0VU)
Erasing ratio :	More than 30dB (at 125Hz)
Test tape :	TTA-602 (NORMAL) TTA-615 (CrO2)

ADJUSTMENT – 1 <TUNER / DECK>

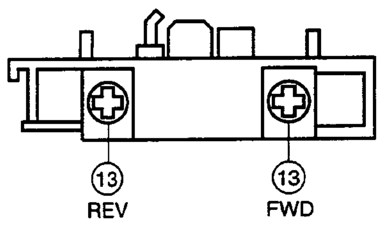
A MAIN C.B



J DECK C.B



DECK–1 P, DECK–2 R / P / E HEAD



< TUNER SECTION >

1. Clock Frequency Adjustment
   Settings : • Test point : TP1 (CLK IC770 pin30)
   • Adjustment location : TC701
   Method : Set to MW 1710kHz and adjust TC701 so that the test point becomes 2160kHz ± 0.01kHz.

2. MW VT Check <LH>
   Settings : • Test point : TP2 (VT)
   Method : Set to MW 1710kHz and check that the test point is less than 8.0V.

3. MW VT Adjustment <HE>
   Settings : • Test point : TP2 (VT)
   • Adjustment location : L981
   Method : Set to MW 1710kHz and adjust L981 so that the test point becomes 8.5V ± 0.05V.

4. MW Tracking Adjustment <HE>
   Settings : • Test point : TP6, TP7
   • Adjustment location :
   L981 .... 600kHz
   TC941 .... 1400kHz
   Method : Set up TC941 to center before adjustment. The level at 600kHz is adjusted to MAX by L981. Then the level at 1400kHz is adjusted to MAX by TC941.

5. SW VT Adjustment <HE>
   Settings : • Test point : TP2 (VT)
   • Adjustment location : L942
   Method : Set to SW 17.9MHz and adjust L942 so that the test point becomes 7.0V ± 0.05V.

6. SW Tracking Adjustment <HE>
   Settings : • Test point : TP6, TP7
   • Adjustment location :
   L941 .... 5.9MHz
   TC942 .... 17.9MHz
   Method : Set up TC942 to center before adjustment. The level at 5.9MHz is adjusted to MAX by L941. Then the level at 17.9MHz is adjusted to MAX by TC942.

7. FM VT Check
   Settings : • Test point : TP2 (VT)
   Method : Set to FM 87.5MHz, 108.0MHz and check that the test point is more than 1.0V (87.5MHz) and less than 8.0V (108.MHz).

8. AM IF Adjustment <LH>
   Settings : • Test point : TP6, TP7
   • Adjustment location :
   L742 .... 450kHz

9. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP3, TP4 (DC balance)
   : TP6, TP7 (Distortion)
   • Adjustment location : L741
   • Input level : 54dB
   Method : Set to FM 98.0MHz and adjust L741 so that the voltage between TP3 and TP4 becomes 0V ± 0.04V.
   Next, check that the distortion is less than 1.3%.

10. Auto Stop Level Adjustment
    Settings : • Test point : TP5
    • Adjustment location : SFR722
    • Input level : 18dB
    Method : Set to FM 98.0 MHz and adjust voltage low (about 0.01V) by SFR722. After that voltage high (about 7.0V) by 2dB down.

11. Auto Stop Level Check
    MW
    Settings : • Test point : TP5
    • Input level : 50dB
    Method : Set to MW 1000kHz (LH), MW 999kHz (HE) and check that the test point is 40 ~ 65dB.

    SW<HE>
    Settings : • Test point : TP5
    • Input level : 65dB
    Method : Set to SW 12.0MHz and check that the test point is less than 65 dB.

    FM
    Settings : • Test point : TP5
    • Input level : 18dB
    Method : Set to FM 98.0MHz and check that the test point is 20 dB ± 5 dB.

< DECK SECTION >

12. Tape Speed Adjustment
    Settings : • Test tape : TTA–100
    • Test point : TP8, TP9
    • Adjustment location : SFR1
    Method : Play back the test tape and adjust SFR1 so that the frequency counter reads 3000Hz ± 5Hz.

13. Head Azimuth Adjustment
    Settings : • Test tape : TTA–300
    • Test point : TP8, TP9
    • Adjustment location : Head azimuth adjustment screw
    Method : Play back the 10kHz signal of the test tape and adjust screw so that the output becomes maximum. Next, perform on each FWD and REV PLAYmode.

14. PB Frequency Response Check (DECK 1, DECK 2)
    Settings : • Test tape : TTA–300
    • Test point : TP8, TP9
    Method : Play back the 315Hz and 10kHz signals of the test tape and check that the output ratio of the 10kHz signal with respect to that of the 315Hz signal is ±2dB.

15. PB Sensitivity Adjustment (DECK 1, DECK 2)
    Settings : • Test tape : TTA–200
    • Test point : TP8, TP9
    • Adjustment location :
    SFR301 (DECK 1, Lch)
    SFR302 (DECK 1, Rch)
    SFR303 (DECK 2, Lch)
    SFR304 (DECK 2, Rch)
    Method : Play back the test tape and adjust SFRs so that the output level of the test point becomes 300mV ± 10mV.

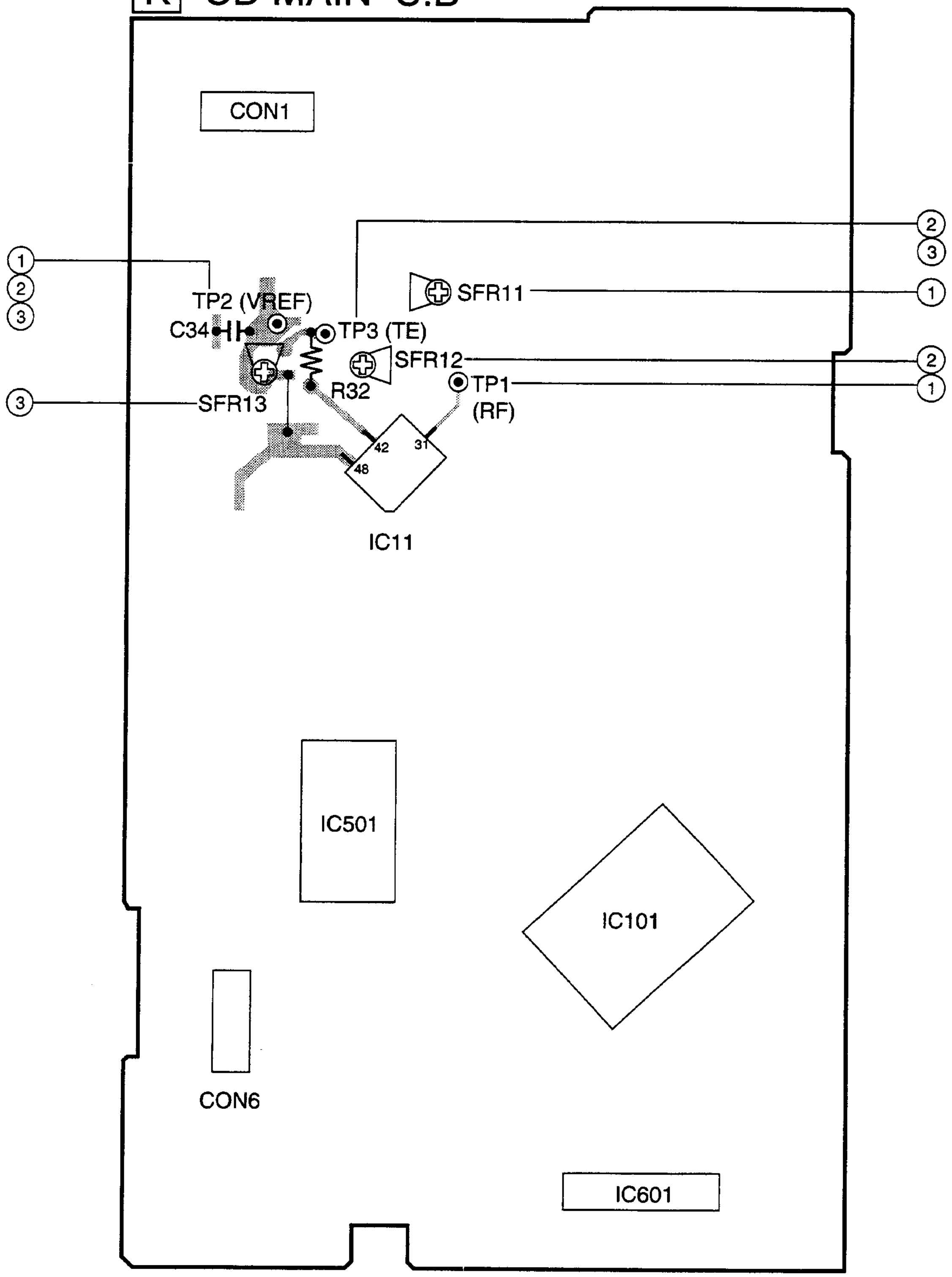
16. REC/PB Frequency Response Adjustment
    Settings : • Test tape : TTA–602
    • Test point : TP8, TP9
    • Input signal : 1kHz / 10kHz (LINE IN)
    • Adjustment location : SFR451 (Lch)
    SFR452 (Rch)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that theoutput level at the TP8, TP9 becomes 171mV. Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output of the 10kHz signals becomes 0dB ± 0.5dB with respect to that of the 1kHz signal.

17. REC/PB Sensitivity Adjustment
    Settings : • Test tape : TTA–602
    • Test point : TP8, TP9
    • Input signal : 1kHz (LINE IN)
    • Adjustment location : SFR305 (Lch)
    SFR306 (Rch)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP8, TP9 becomes 17mV. Record and play back the 1kHz signals and adjust SFRs so that the output is 17mV ± 0.5dB.

18 Bias OSC Frequency Adjustment
   Settings : • Test tape : TTA–615
   • Test point : TP10 (C463)
   • Adjustment location : L451
   Method : Set to the REC mode. Adjust L451 so that the frequency counter of the test point becomes minimum.

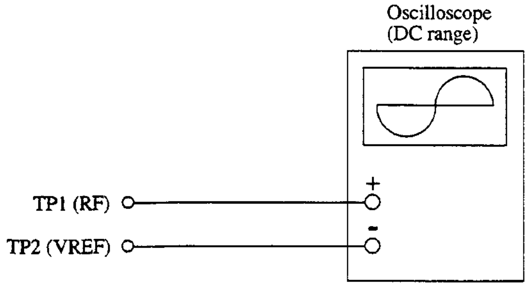
ADJUSTMENT – 2 <CD>

K CD MAIN C.B


CON1
①
②
③
TP2 (VREF)
C34
TP3 (TE)
SFR11
SFR12
R32
TP1
(RF)
SFR13
③
42
31
48
IC11
②
③
①
②
①
IC501
IC101
CON6
IC601

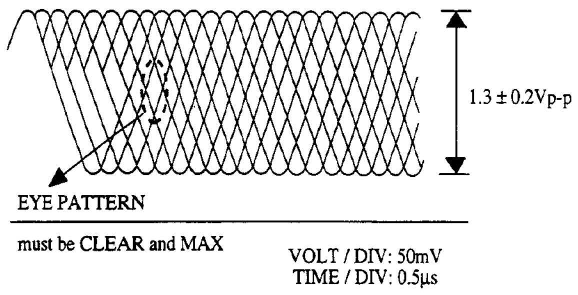
Note :
Connect a probe (10:1) of the oscilloscope or the frequency counter to a test point TP2(VREF).

1. Focus Bias Adjustment
   Make the focus bias adjustment when replacing and repairing the optical block.

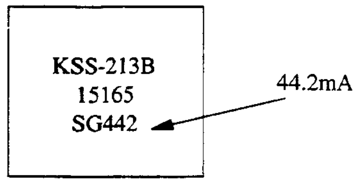

Oscilloscope
(DC range)
TP1 (RF)
TP2 (VREF)
+
-

1) Connect an oscilloscope to the test points TP1 (RF) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
4) Adjust SFR11 so that RF signal of the test point TP1 (RF) is MAX and CLEARREST.

RF signal waveform

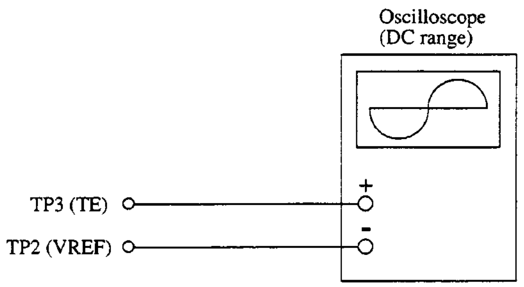

1.3 ± 0.2Vp-p
EYE PATTERN
must be CLEAR and MAX
VOLT / DIV: 50mV
TIME / DIV: 0.5μs

Note:
The current of the laser signal can be checked with the voltages on both sides of R28 (10Ω). The difference for the specified value shown on the level must be within ± 6.0mA.

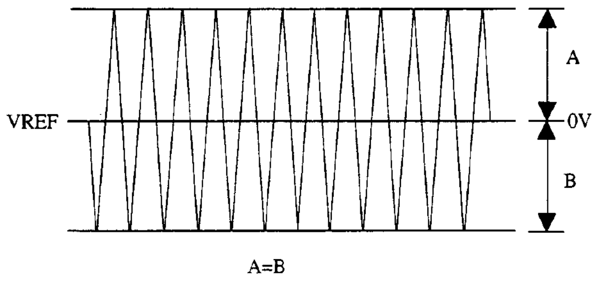

KSS-213B
15165
SG442
44.2mA

$$\text{Laser current Iop} = \frac{\text{Voltage across R28}}{10\Omega}$$

2. Tracking Balance Adjustment


Oscilloscope
(DC range)
TP3 (TE)
TP2 (VREF)
+
-

1) Connect an oscilloscope to the test points TP3 (TE) and TP2 (VREF).
2) Active the CD test mode.
3) Insert test disc TCD-782 (YEDS-18) and set the traverse mode (No.4) of CD test mode.
4) Adjust SFR12 so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
5) After the adjustment is completed, remove the connected lead wires from the terminals.


VREF
A
0V
B
A=B

VOLT / DIV: 20mV
TIME / DIV: 1mS

3. Tracking Gain Adjustment

A servo analyzer is necessary in order to perform this adjustment exactly. However, this gain has a margin, so even if it is slightly off, there is no problem. Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when 2-axis device operates. However, as these gains are reciprocate, the adjustment is performed at the point where both gains are satisfied.

- When gain is raised, the noise increases when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.

When the gain adjustment is not satisfied, the symptoms below appear.

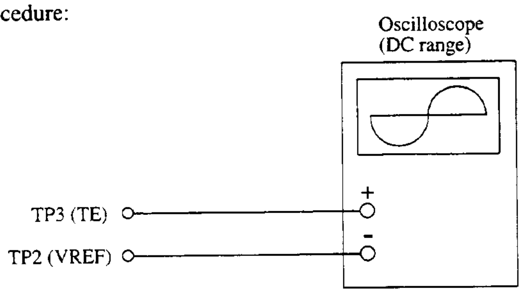
Symptoms / Gain	(Focus)	Tracking
• The time until music starts becomes longer for STOP → ▶PLAY or automatic selection (⏮, ⏭ buttons pressed.) (Normally takes about 2 seconds.)	low	low or high
• Music does not start and disc continues to rotate for STOP → ▶PLAY or automatic selection (⏮, ⏭ buttons pressed.)	-	low
• Disc stops to rotate shortly after STOP → ▶PLAY.	low or high	-
• Sound is interrupted during PLAY. Or time counter display stops.	-	low
• More noises during the 2-axis device operation.	high	high

The following is simple adjustment method.

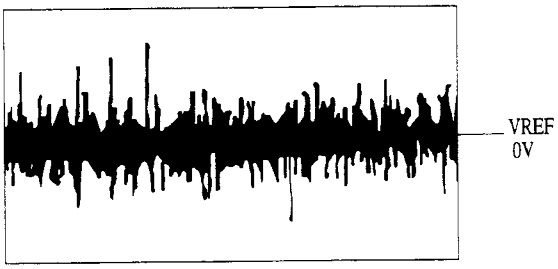
– Simple adjustment –

Note: Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment.
If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procedure:



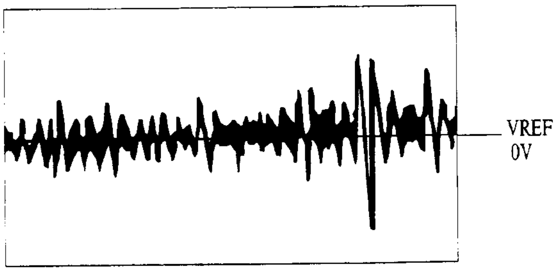
1) Keep the set horizontal. (If the set is not kept horizontally, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
3) Connect an oscilloscope to TP2 (VREF) and TP3(TE).
4) Adjust SFR13 so that the waveform appears as shown in the figure below.
(tracking gain adjustment)



VOLT/DIV: 50 mV
TIME/DIV: 1 mS

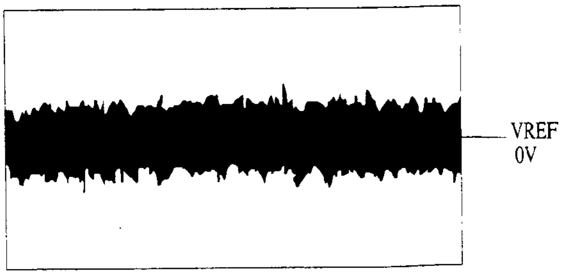
- Incorrect example

Low tracking gain
(The fundamental wave appears as compare with the waveform adjusted)



VOLT/DIV: 50 mV
TIME/DIV: 1 mS

High tracking gain
(The frequency of the fundamental wave is higher than in low gain)



VOLT/DIV: 50 mV
TIME/DIV: 1 mS

TEST MODE

1. How to Activate CD Test Mode
1) Insert the AC plug while pressing the function CD button. All FL display tubes will light up, and the test mode will be activated.

2. How to cancel CD Test Mode
Either one of the following operations will cancel the CD test mode.
- Press the function button (except CD button).
- Press the power switch button.
- Disconnect the AC plug.

3. CD Test Mode Functions
When test mode is activated, the following mode functions from No. 1 to No. 5 can be used by pressing the operation keys.

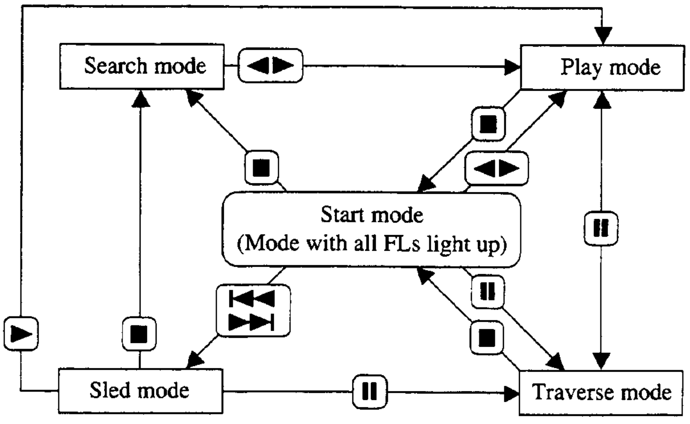
Mode / No.	Operation	FL display	Operation	Contents
Start mode No. 1	Test mode activation	All FL light up	• Active the test mode. (CD block power supply ON)	All FL displays light up
Search mode No. 2	■ key	C0--	• Laser diode illuminated under normal circumstances • Continual focus search * NOTE 1 (The pickup lens repeats the full-swing up-down motion.) * Avoid continual searches that last for more than 10 minutes.	• Laser current measurement (Across R28 resistor) FOCUS SERVO • Check focus search waveform • Check focus error waveform * FOK / FZC are not monitored in the search mode.
Play mode No. 3	◀▶ key	C01	• Normal playback • Focus search is continued if TOC cannot be read * NOTE 1	FOCUS SERVO / TRACKING SERVO CLV SERVO / SLED SERVO Check FOK / FZC
Traverse mode No. 4	❚❚ key	C01	• During normal disc playback Press once; tracking servo OFF Press twice; tracking servo ON * NOTE 2	TRACKING SERVO ON / OFF Tracking balance (traverse) adjustment TP2 (VREF), TP3 (TE)
Sled mode No. 5	⏮ key ⏭	All FL light up	• Pickup moves to the outermost track • Pickup moves to the innermost track * NOTE 3 (During playback, machine operates normally.)	SLED SERVO Check SLED mechanism operation

* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases, the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.

* NOTE 2: Do not press the ⏮ or ⏭ keys when the machine is in the ❚❚ status is active. If they are pressed, playback will not be possible after the ❚❚ status has been canceled. If the ⏮ or ⏭ keys are pressed in the ❚❚ status, press the ■ key and return to start mode (No. 1).

* NOTE 3: When pressing the ⏮ or ⏭ keys, take care to avoid damage to the gears. Because the sled motor is activated when the ⏮ or ⏭ keys are pressed, even when the pick-up is at the outermost or innermost track.

4. Operation Outline
- The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.
- When DISC DIRECT key is pressed, test mode is operated same as pressing the PLAY key.
- When CD tray is opened by OPEN / CLOSE key while play and traverse modes, test mode goes back start mode.



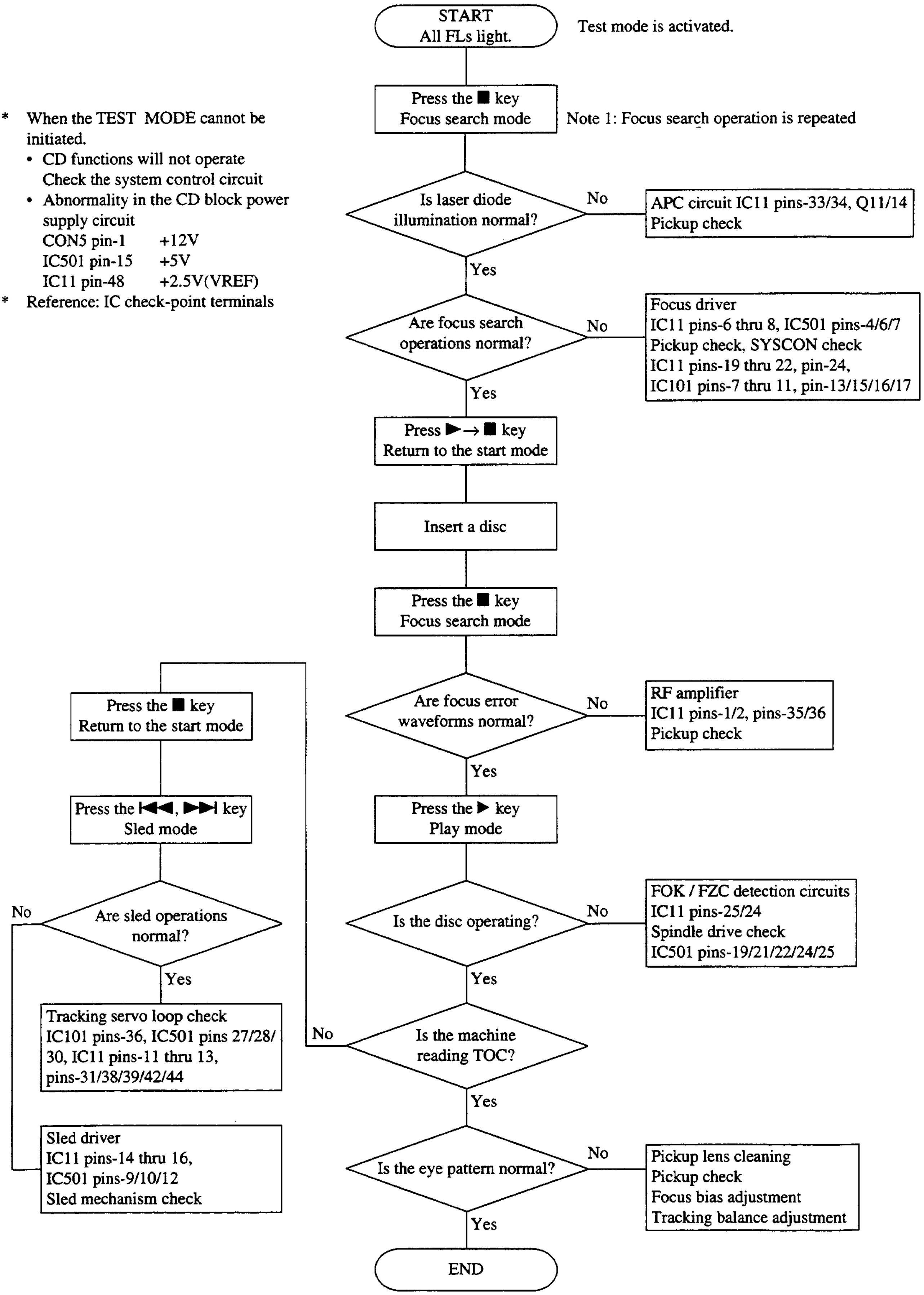
CD TROUBLE-SHOOTING

Flow Chart

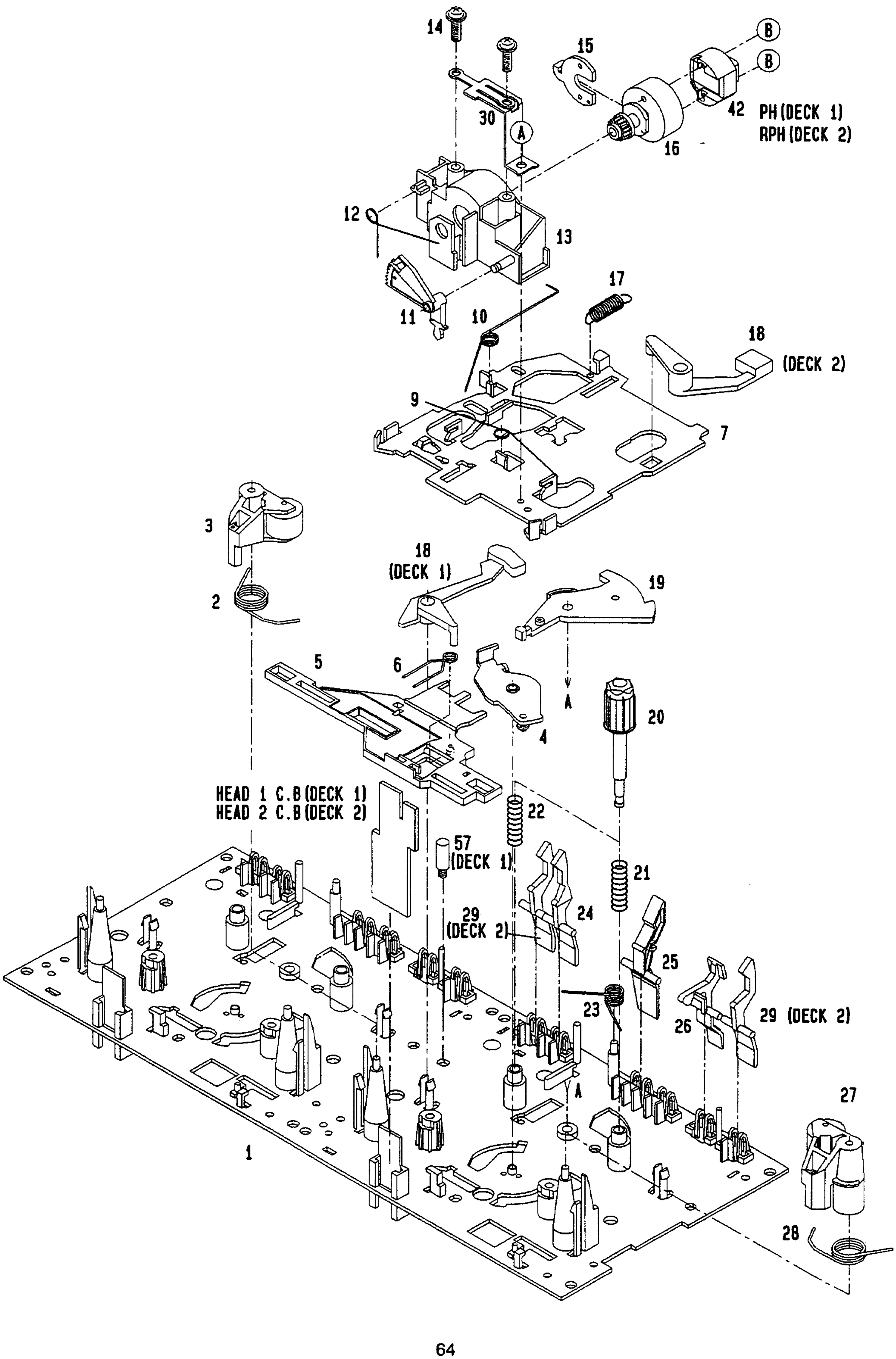
* When the TEST MODE cannot be initiated.
- CD functions will not operate
  Check the system control circuit
- Abnormality in the CD block power supply circuit

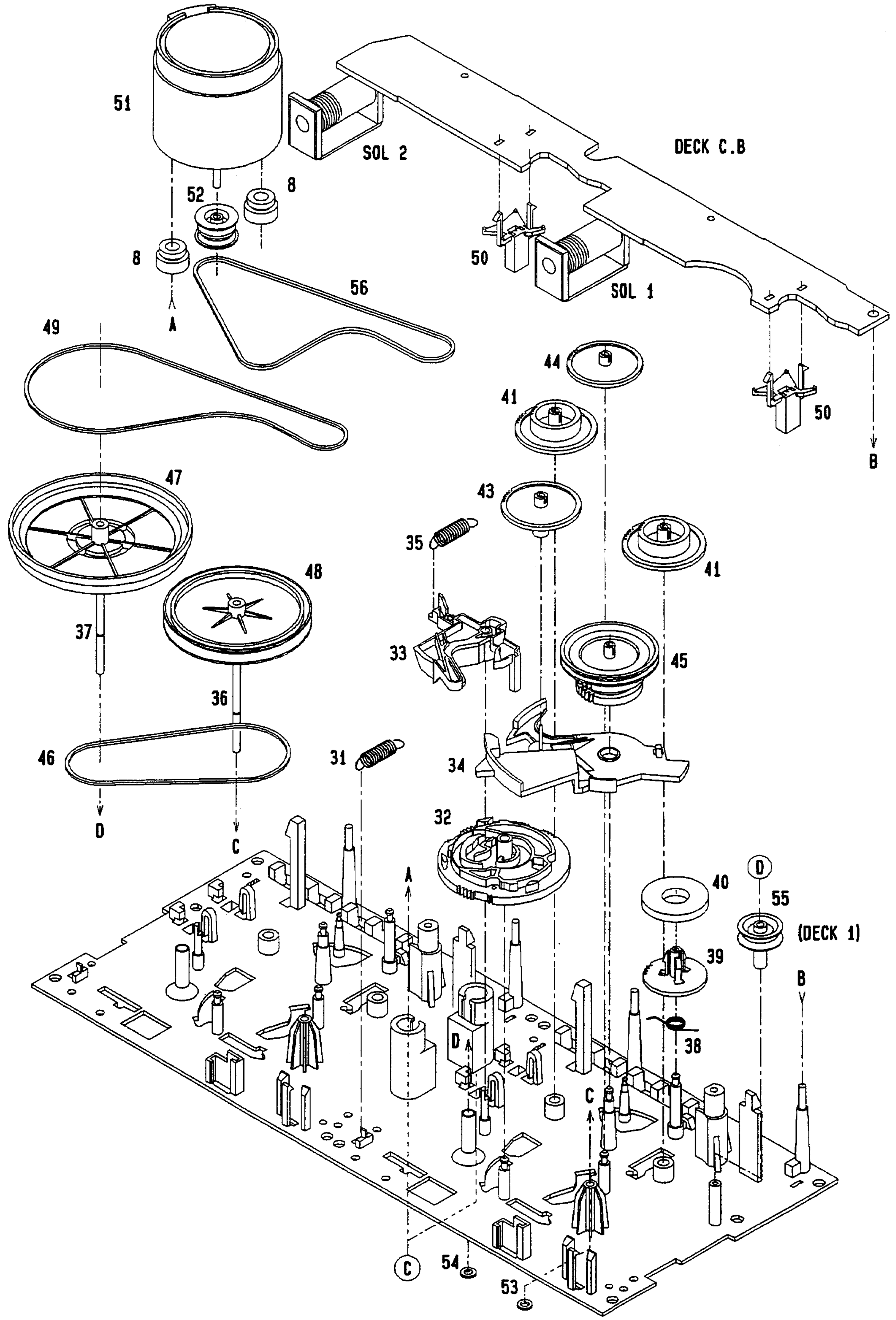
CON5 pin-1	+12V
IC501 pin-15	+5V
IC11 pin-48	+2.5V(VREF)

* Reference: IC check-point terminals


START
All FLs light.
Test mode is activated.
Press the ■ key
Focus search mode
Note 1: Focus search operation is repeated
Is laser diode illumination normal?
No
APC circuit IC11 pins-33/34, Q11/14
Pickup check
Yes
Are focus search operations normal?
No
Focus driver
IC11 pins-6 thru 8, IC501 pins-4/6/7
Pickup check, SYSCON check
IC11 pins-19 thru 22, pin-24,
IC101 pins-7 thru 11, pin-13/15/16/17
Yes
Press ▶→■ key
Return to the start mode
Insert a disc
Press the ■ key
Focus search mode
Are focus error waveforms normal?
No
RF amplifier
IC11 pins-1/2, pins-35/36
Pickup check
Yes
Press the ▶ key
Play mode
Is the disc operating?
No
FOK / FZC detection circuits
IC11 pins-25/24
Spindle drive check
IC501 pins-19/21/22/24/25
Yes
Is the machine reading TOC?
No
Press the ■ key
Return to the start mode
Press the ⏮, ⏭ key
Sled mode
Are sled operations normal?
No
Yes
Tracking servo loop check
IC101 pins-36, IC501 pins 27/28/30, IC11 pins-11 thru 13, pins-31/38/39/42/44
Sled driver
IC11 pins-14 thru 16,
IC501 pins-9/10/12
Sled mechanism check
Yes
Is the eye pattern normal?
No
Pickup lens cleaning
Pickup check
Focus bias adjustment
Tracking balance adjustment
Yes
END

TAPE MECHANISM EXPLODED VIEW 1 / 1


14
15
B
B
42
PH (DECK 1)
RPH (DECK 2)
30
A
16
12
13
17
11
10
18
(DECK 2)
9
7
3
18
(DECK 1)
19
2
5
6
A
20
4
HEAD 1 C.B (DECK 1)
HEAD 2 C.B (DECK 2)
22
57
(DECK 1)
21
24
29
(DECK 2)
25
23
26
29 (DECK 2)
A
27
1
28

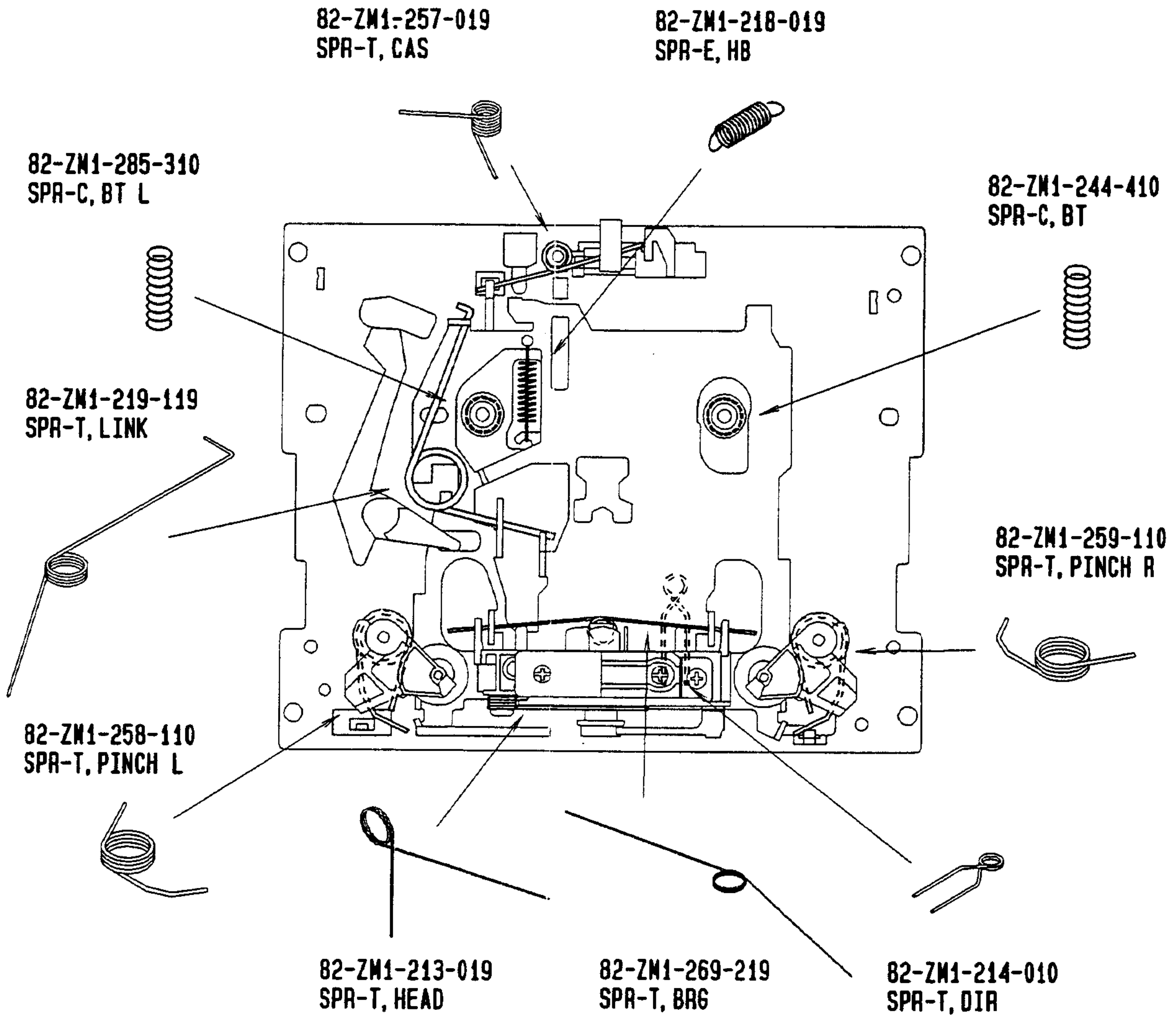


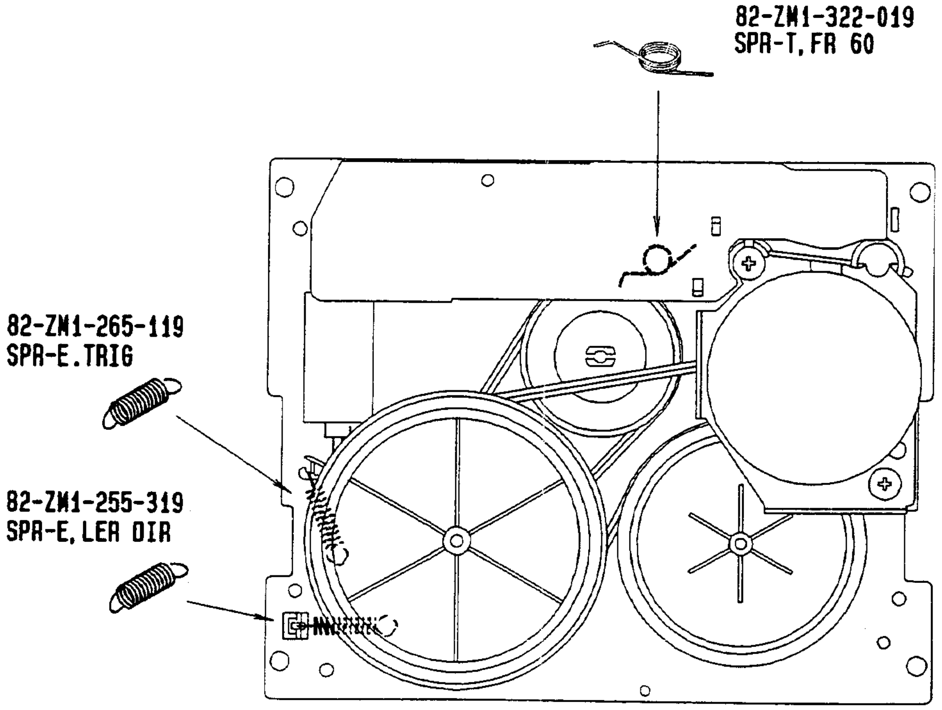
TAPE MECHANISM PART LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

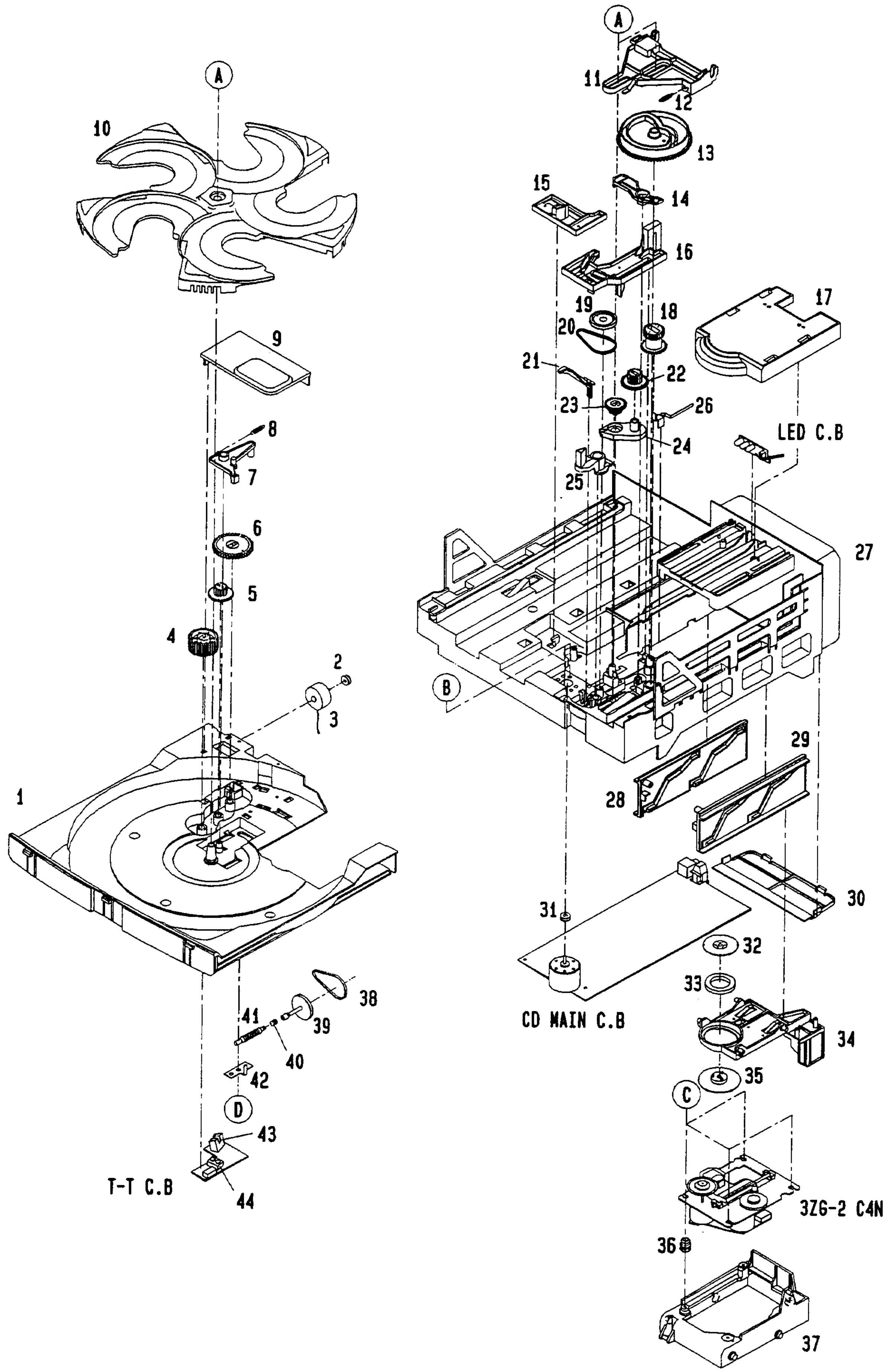
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM3-301-519		CHAS ASSY,M2
2	82-ZM1-258-110		SPR-T,PINCH L
3	82-ZM1-345-019		LVR ASSY,PINCH L W
4	82-ZM1-333-010		PLATE,LINK 2
5	82-ZM1-266-11K		LVR,DIR
6	82-ZM1-214-010		SPR-T,DIR
7	82-ZM1-206-81K		CHAS,HEAD
8	82-ZM3-307-019		CUSH-G,DIA3.7-8-3.2
9	82-ZM1-269-219		SPR-T,BRG
10	82-ZM1-219-119		SPR-T,LINK
11	82-ZM1-210-119		GEAR,H T
12	82-ZM1-213-019		SPR-T,HEAD
13	82-ZM1-207-619		GUIDE,TAPE
14	82-ZM1-283-310		S-SCREW,AZIMUTH
15	82-ZM1-314-119		PLATE,HEAD
16	82-ZM1-208-119		HLDR,HEAD
17	82-ZM1-218-019		SPR-E,HB
18	82-ZM1-263-110		LVR,EJECT L (DECK 1)
18	82-ZM1-264-010		LVR,EJECT R (DECK 2)
19	82-ZM1-222-21K		LVR,PLAY
20	82-ZM1-217-319		REEL TABLE
21	82-ZM1-244-510		SPR-C,BT
22	82-ZM1-285-310		SPR-C,BT L
23	82-ZM1-257-019		SPR-T,CAS
24	82-ZM1-241-319		LVR,MC
25	82-ZM1-242-019		LVR,CAS
26	82-ZM1-243-019		LVR,STOP
27	82-ZM1-346-019		LVR ASSY,PINCH R W
28	82-ZM1-259-110		SPR-T,PINCH R
29	82-ZM1-240-11K		LVR,REC (DECK 2)
30	82-ZM1-298-010		SPR-P,EARTH
31	82-ZM1-255-319		SPR-E,LVR DIR
32	82-ZM3-305-01K		GEAR,CAM M2
33	82-ZM1-227-21K		LVR,TRIG
34	82-ZM3-306-11K		LVR,FR M2
35	82-ZM1-265-119		SPR-E,TRIG
36	82-ZM1-236-019		CAPSTAN N 2-41.5
37	82-ZM1-239-019		CAPSTAN N 2.2-41.7
38	82-ZMI-322-019		SPR-T,FR60
39	82-ZM1-220-219		GEAR,IDLER
40	82-ZM3-616-019		RING MAGNET 4
41	82-ZM1-216-31K		GEAR,REEL
42	87-046-355-019		HEAD,PH HADKH2529B(PH)
42	87-046-356-019		HEAD,RPH HADKH5581B(RPH)
43	82-ZM1-225-21K		GEAR,FR
44	82-ZM1-226-019		GEAR,REW
45	82-ZM1-228-810		SLIP DISK ASSY
46	82-ZM1-338-010		BELT FR4
47	82-ZM1-238-81K		FLY-WHL ASSY,R (DECK 2)
47	82-ZM3-210-71K		FLY-WHL ASSY,R2 (DECK 1)
48	82-ZM1-235-51K		FLY-WHL ASSY,L (DECK 2)
48	82-ZM3-208-61K		FLY-WHL ASSY,L2 (DECK 1)
49	82-ZM3-329-210		BELT,SBU R2
50	82-ZM1-245-210		HLDR,IC
51	87-045-347-019		MOT,SHU2L 70(M1)
52	82-ZM3-221-010		PULLEY,MOT 2M
53	82-ZM1-288-019		SH,1.63-3.2-0.5 SLT
54	80-ZM6-243-019		SH,1.75-3.6-0.5 SLT
55	82-ZM3-304-110		PULLEY,COUPLER (DECK 1)
56	82-ZM3-328-110		BELT,SBU P2
57	82-ZM3-216-019		SHAFT,COUPLER N(DECK 1)
A	82-ZM1-315-010		S-SCREW,GVIDE TAPE
B	80-ZM6-207-019		V+1.6-7
C	82-ZM3-318-019		S-SCRW MOTOR M2
D	87-067-972-019		PW,1.05-3-0.25 SLT

SPRING APPLICATION POSITION


82-ZM1-257-019
SPR-T, CAS
82-ZM1-218-019
SPR-E, HB
82-ZM1-285-310
SPR-C, BT L
82-ZM1-244-410
SPR-C, BT
82-ZM1-219-119
SPR-T, LINK
82-ZM1-259-110
SPR-T, PINCH R
82-ZM1-258-110
SPR-T, PINCH L
82-ZM1-213-019
SPR-T, HEAD
82-ZM1-269-219
SPR-T, BRG
82-ZM1-214-010
SPR-T, DIR


82-ZM1-322-019
SPR-T, FR 60
82-ZM1-265-119
SPR-E. TRIG
82-ZM1-255-319
SPR-E, LEA DIR

CD MECHANISM EXPLODED VIEW 1 / 2

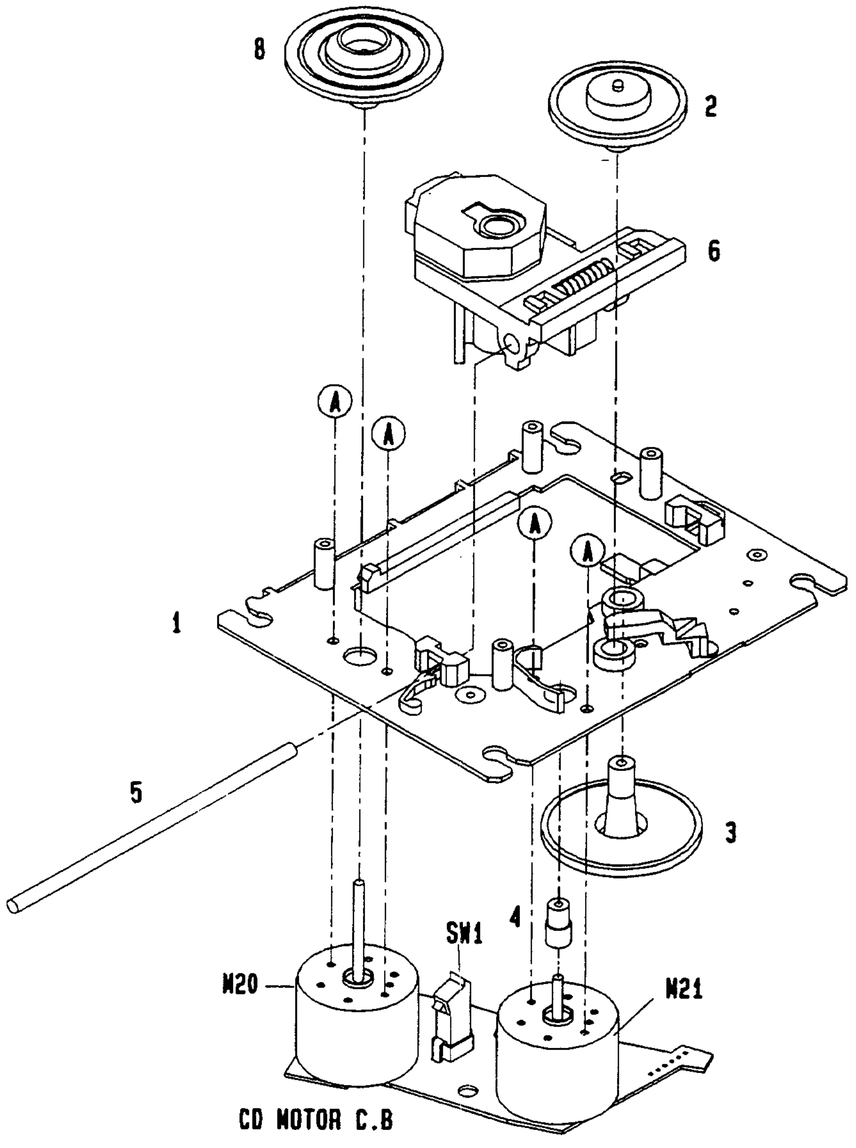

A
A
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
LED C.B
27
B
9
8
7
6
5
4
2
3
1
28
29
30
31
32
33
CD MAIN C.B
34
35
C
38
41
39
40
42
D
43
T-T C.B
44
3ZG-2 C4N
36
37

CD MECHANISM PARTS LIST 1 / 2

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-ZG1-001-119		TRAY,5CD
2	81-ZG1-212-01K		PULLY,LOAD MO
3	87-A90-036-019		MOT ASSY,RF-300CA-11
4	86-ZG1-228-019		GEAR,TT-B
5	86-ZG1-227-019		GEAR,TT-A
6	86-ZG1-223-019		WORM-WHEEL,TT
7	86-ZG1-224-019		LEVER,TT
8	86-ZG1-226-010		SPR-E,LEVER TT
9	86-ZG1-003-119		COVER,TRAY
10	86-ZG1-002-119		TURN TABLE,5CD
11	86-ZG1-211-119		JOINT,CAM
12	86-ZG1-216-010		SPR-E,JT
13	86-ZG1-203-019		GEAR,MAIN CAM
14	86-ZG1-213-019		LEVER,LOAD
15	86-ZG1-214-019		LEVER,PROTECT
16	86-ZG1-212-119		SLIDER,LOAD
17	86-ZG1-004-019		REFLECTOR,CD
18	86-ZG1-205-019		GEAR,TRAY
19	84-ZG1-219-019		PULLY,RELAY BGE
20	84-ZG1-209-010		BELT,SQ1.8-117.7
21	86-ZG1-217-019		LEVER,SW
22	86-ZG1-206-019		GEAR,RELAY B
23	86-ZG1-204-019		GEAR,RELAY A
24	86-ZG1-218-019		PLATE,GEAR
25	86-ZG1-208-019		LEVER,TRAY
26	86-ZG1-220-110		SPR-P,LOCK
27	86-ZG1-201-119		CHAS,MECHA
28	86-ZG1-209-019		SLIDER,CAM L
29	86-ZG1-210-019		SLIDER,CAM R
30	86-ZG1-005-019		COVER,CHAS
31	84-ZG2-228-019		PULLEY,MOT
32	83-ZG3-211-01K		PLATE,DISC
33	83-ZG3-602-010		RING,MAG
34	86-ZG1-215-019		HLDR,CHUCK
35	83-ZG3-212-019		CAP,DISC
36	80-CD3-214-019		CUSH CD A
37	86-ZG1-202-119		HLDR,MECHA
38	86-ZG1-225-019		BELT,SQ1.2-32.9
39	86-ZG1-221-01K		PULLEY,TT
40	86-ZG1-231-010		SPR-C,WORM
41	84-ZG1-256-010		GEAR,WORM N
42	86-ZG1-232-010		SPR-P,WORM
43	86-ZG1-229-019		HLDR,SENSOR
44	86-ZG1-230-019		HLDR,DISC SENSOR
A	87-078-148-019		VFT 2+3-12(F10)BLK
B	87-251-072-419		U+2.6-5
C	81-ZG1-254-019		S-SCREW,MECH HLDR
D	87-067-579-019		BVT2+3-8 W/O SLOT

CD MECHANISM EXPLODED VIEW 2 / 2

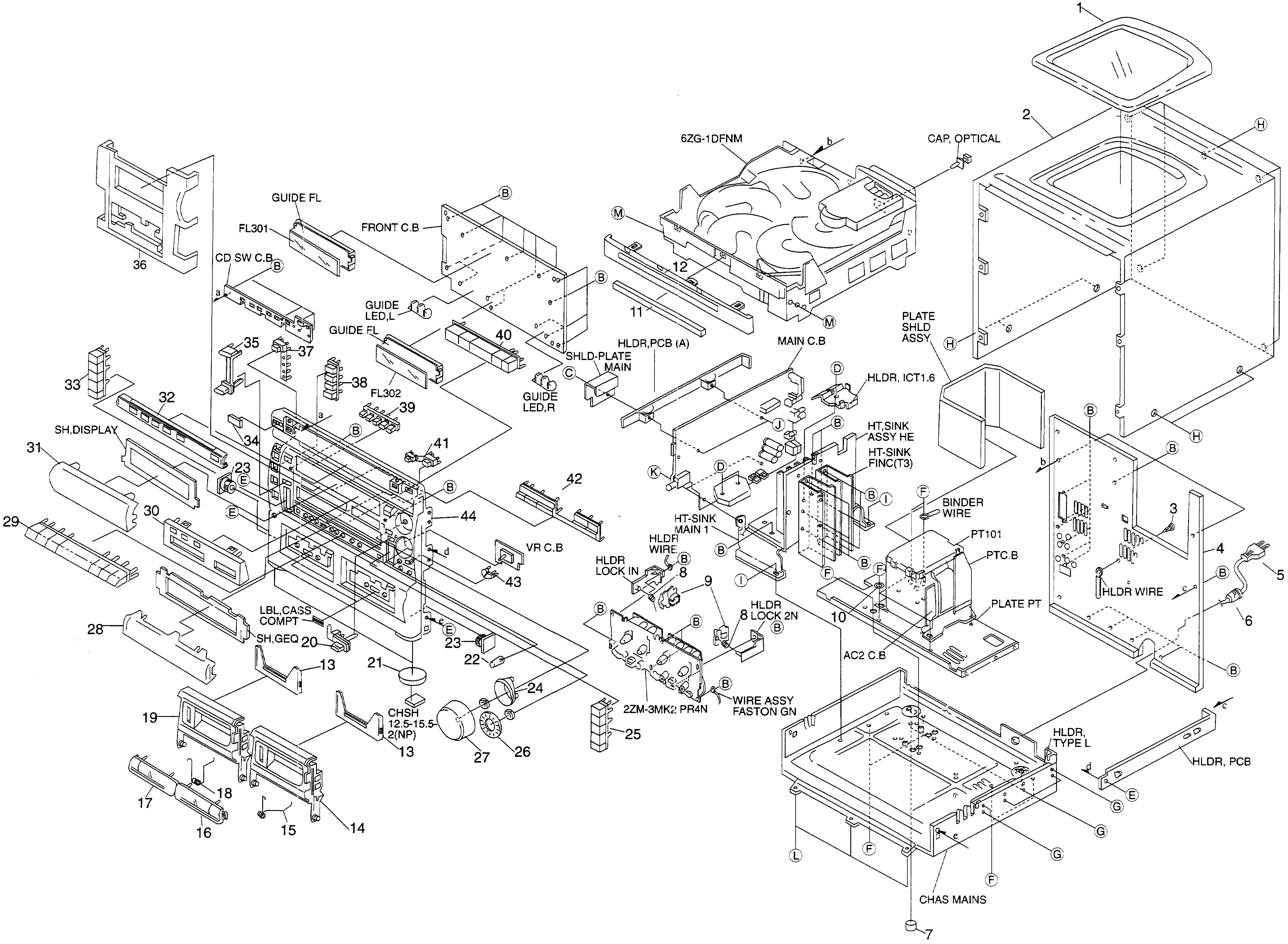


CD MECHANISM PARTS LIST 2 / 2

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-232-11K		O-SERT S ASSY,S5
2	83-ZG2-204-419		GEAR,A
3	83-ZG2-205-219		GEAR,B
4	83-ZG2-220-01K		GEAR MOTOR 2
5	83-ZG2-207-119		SHAFT,SLIDE
6	87-070-445-010		PICK-UP,KSS-213B
8	83-ZG2-227-01K		TURN TABLE,C1
A	87-261-032-219		SCREW V+2-3

MECHANICAL EXPLODED VIEW 1/1


1
2
Ⓗ
6ZG-1DFNM
b
CAP, OPTICAL
Ⓜ
12
11
Ⓜ
PLATE
SHLD
ASSY
36
GUIDE FL
FL301
FRONT C.B
Ⓑ
CD SW C.B
Ⓑ
a
GUIDE
LED,L
GUIDE FL
40
SHLD-PLATE
MAIN
Ⓒ
GUIDE
LED,R
HLDR,PCB (A)
MAIN C.B
Ⓓ
HLDR, ICT1.6
35
37
38
FL302
33
32
39
a
34
SH,DISPLAY
31
23
Ⓔ
Ⓔ
41
Ⓙ
Ⓚ
Ⓓ
HT,SINK
ASSY HE
HT-SINK
FINC(T3)
Ⓘ
42
44
30
29
VR C.B
d
43
HT-SINK
MAIN 1
HLDR
WIRE
HLDR
LOCK IN
8
9
8
HLDR
LOCK 2N
BINDER
WIRE
PT101
PTC.B
Ⓕ
PLATE PT
10
3
4
5
6
HLDR WIRE
c
b
LBL,CASS
COMPT
SH,GEQ
28
20
23
e
22
21
24
13
19
CHSH
12.5-15.5-
2(NP)
13
27
26
25
2ZM-3MK2 PR4N
WIRE ASSY
FASTON GN
AC2 C.B
18
17
16
15
14
HLDR,
TYPE L
HLDR, PCB
c
d
Ⓔ
Ⓖ
Ⓖ
Ⓖ
Ⓛ
Ⓕ
Ⓕ
CHAS MAINS
7

MECHANICAL PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-MA3-042-010		WINDOW,TOP
2	86-NFA-004-010		CABI,STEEL
3	87-084-077-010		RIVET,NYL 3.5-4.5
4	86-NF9-002-010		PANEL,REAR HEJBNM<HE>
4	86-NF9-045-010		PANEL,REAR LHBNM<LH>
⚠ 5	87-050-079-010		AC CORD ASSY,E BLK
6	87-085-185-010		BUSHING,AC CORD(E) CM-22B
7	87-085-221-010		FOOT, H 13.5
8	82-NF5-228-010		SPR-C,LOCK
9	82-NF5-229-010		PLATE,LOCK(*)
10	87-067-747-010		W,4.3-14-1 W/O ADH
11	86-NF9-006-010		PANEL,CD
12	86-NF9-005-010		PANEL,TRAY
13	86-NF6-061-010		REFLECTOR,CASS
14	86-NF9-004-010		BOX,CASS 2
15	82-NF5-219-010		SPR-T,EJECT 2(SIN)
16	86-NF9-014-010		WINDOW,CASS 2
17	86-NF9-013-010		WINDOW,CASS 1
18	82-NF5-218-010		SPR-T,EJECT 1(SIN)
19	86-NF9-003-010		BOX,CASS 1
20	86-NF9-038-010		KEY,DSP OFF
21	86-NF9-034-010		RING,FOOT
22	86-NT1-023-010		KNOB,RTRY MIC
23	87-063-165-010		OIL-DMPR,150
24	86-NF9-032-010		RING,VOL
25	86-NF9-026-010		KEY,DSP
26	86-NF9-033-010		KNOB,RTRY JOG
27	86-NF9-031-010		KNOB,RTRY VOL
28	86-NF9-012-010		WINDOW,GEQ
29	86-NF9-030-010		KEY,BBE
30	86-NF9-008-010		PANEL,CONTROL
31	86-NF9-011-010		WINDOW,DISPLAY
32	86-NF9-010-010		WINDOW,CD
33	86-NF9-025-010		KEY,GEQ
34	82-NE6-067-010		BADGE,AIWA 30N
35	86-NF9-037-010		KEY,GEQ OFF
36	86-NF9-007-010		PANEL,FR
37	86-NF9-042-010		KEY,ASSY POWER
38	86-NF9-024-010		KEY,FUN
39	86-NF9-016-010		KEY,ASSY DISC
40	86-NF9-043-010		KEY,ASSY PLAY
41	86-NF9-015-010		KEY,OPEN
42	86-NF9-039-010		KEY,REC
43	86-NF9-029-010		KEY,MEMORY
44	86-NF9-001-010		CABI,FR
A	87-067-579-010		BVT2+3-8 W/O SLOT
B	87-067-703-010		BVT2+3-10 W/O SLOT
C	87-741-094-410		UT2+3-6
D	87-067-822-010		BVT2+3-20 W/O SLOT
E	87-591-094-410		QIT+3-6
F	87-067-975-010		S-SCREW,IT+4-8 SWCH12A
G	87-721-095-410		QT2+3-8
H	87-067-641-010		UTT2+3-8 W/O SLOT BLK
I	87-067-689-010		BVTT+3-8
J	87-078-084-010		BVTT+3-6 W,CONVEX
K	87-067-633-010		BVT2+3-8 W,CONVEX
L	87-067-673-010		BVTT+3-8 BLK
M	87-721-097-410		QT2+3-12 W/O SLOT

ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-NF9-902-010		IB,H(E,C,A)M<HE>
1	86-NF9-901-010		IB,LH(E,S,P)M<LH>
2	86-MA3-701-110		RC UNIT,6AS01
3	87-A90-054-010		ANT,LOOP AM-CON C<HE>
4	87-043-095-010		ANT,WIRE<HE>
5	87-043-115-010		FEEDER-ANT,FM
6	87-A90-312-010		PLUG,CONVERSION WTN-1157R1
7	87-006-225-010		ANT,LOOP ANT NC2<LH>

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
G—　—	
G—　—	
G—　—	

アイワ株式会社
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Tokyo Japan

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Printed in Singapore

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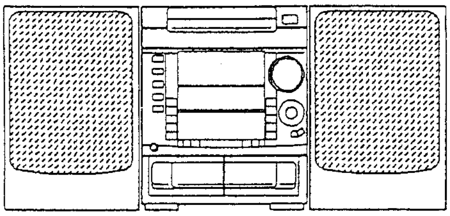

COMPACT DISC STEREO
CASSETTE RECEIVER

- BASIC TAPE MECHANISM : 2ZM-3MK2 PR4NM
- BASIC CD MECHANISM : 6ZG–1 DFNM

- TYPE : V

SUPPLEMENT

SYSTEM	CD – CASSEIVER	SPEAKER	REMOTE CONTROLLER
NSX-F9	CX-NF9	SX–NAVF9	RC - 6AS01

- This Service Manual contains information about the difference between NSX-F9 (V) and NSX-F9 (K).If requiring the other information,see Service Manual of NSX-F9 (K), S/M code No. 09-971-178-4FP. 2239 # 1020022

- If requiring information about the Speaker, see Service Manual of SX-NAVF9, S/M Code No. 09-971-177-4FP.

2254

S/M Code No. 09–972–182–1FP

SERVICE MANUAL

SPECIFICATIONS

<FM Tuner section>

Tuning range	FM1 (OIRT) 65.0 MHz to 74.0 MHz (10 kHz step) FM2 (CCIR) 87.5 MHz to 108 MHz (50 kHz step)
Usable sensitivity(IHF)	17.2 dBf
Antenna terminals	75 ohms (unbalanced)

<MW Tuner section>

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 uV/m
Antenna	Loop antenna

<LW Tuner section>

Tuning range	144 kHz to 290 kHz
Usable sensitivity	1400 uV/m
Antenna	Loop antenna

<Amplifier section>

Power output	Rated 160 W + 160 W (6 ohms,T.H.D.1%,1 kHz) Reference: 200 W + 200 W (6 ohms, T.H.D.10%,1 kHz) *(without connecting to the SURROUND SPEAKERS)
Total harmonic distortion	0.1% (20 W, 1 kHz, 6 ohms, DIN AUDIO)
Inputs	VIDEO/AUX : 150 mV(adjustable) MIC 1,MIC 2: 1mV (10 kohms)
Outputs	SUPER WOOFER: 3.1 V SPEAKERS: accept speakers of 6 ohms or more SURROUND SPEAKERS: accept speakers of 16 ohms or more PHONES (stereo jack) : accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CRo$_2$ tape: 50 Hz – 16000 Hz Normal tape: 50 Hz –15000 Hz
Singnal-to noise ratio	60 dB (Dolby B NR ON, CrO$_2$ tape peak level)
Recording system	AC bias
Heads	Deck 1 : playback head x 1 Deck 2 : Recording/Playback/ erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	88 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

<Speaker system SX–NAVF9>

Cabinet type	3 way, bass reflex (magnetic shielded type)
Speakers	Woofer : 160 mm cone type Tweeter : 80 mm cone type Super tweeter: 20 mm ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	260 x 353 x 330mm ($10^{1}/_{4}$ x 14 x 13in.)
Weight	5.9 kg (13 lbs.)

<General>

Power requirements	230 V AC,50 Hz
Power consumption	210 W
Dimensions of main unit (W x H x D)	300 x 357.5 x 374 mm
Weight of main unit	13 kg

- Design and specifications are subject to change without notice.

- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
  "DOLBY" and the double-D symbol □□ are trademarks of Dolby Laboratories Licensing Corporation.

- The word "BBE"and the "BBE symbol" are trademarks of BBE Sound, Inc.
  Under license from BBE Sound,Inc.

ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-NF9-906-019		IB,V-M
2	86-MA3-702-019		RC UNIT,6AS01
3	87-043-115-019		FEEDER-ANT,FM

ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
MAIN C.B			
FFE801	A8-6ZA-193-030		6ZA-1 FEVNM
J801	87-A60-202-010		TERMINAL,ANT 4P MSP-154V-02
PT C.B			
⚠ PT001	86-NF9-632-110		PT,6NF-9 E

MECHANICAL PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
2	86-NFA-052-010		CABI,STEEL NEW
4	86-NF9-053-019		PANEL,REAR VJBNM
⚠ 5	87-050-079-019		AC CORD ASSY,E BLK
38	86-NF9-043-119		KEY,ASSY PLAY
42	86-NF9-062-110		CABI,FR E

ADJUSTMENT – 1 <TUNER>

6. FM VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to FM 65.0MHz and check that the test point is more than 0.8V.Then Set to FM 108.0MHz and check that the test point is less than 9.5V.

7. FM Tracking Check
   Settings : • Test point : TP8,TP9
   Method : Set to FM 98.0MHz and FM70.0MHz and check that the test point is 2 ± 6dB (98.0MHz) and 6 ± 5dB (70.0MHz).

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity : 6dB ± 6dB [at 65.0 / 70.0 / 74.0MHz]
(THD 3%) 3dB ± 6dB [at 87.5 / 98.0 / 108.0MHz]
S/N 50 Quieting sensitivity :
33dB ± 6dB [at 65.0 / 70.0 / 74.0MHz]
Less than 36dB [at 87.5 / 98.0 / 108.0MHz]
Stereo separation : More than 22dB
[at 98.0MHz]
Intermediate frequency : 10.7MHz

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

►

サービス技術ニュース	
番号	連絡内容
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Tokyo Japan

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Printed in Singapore

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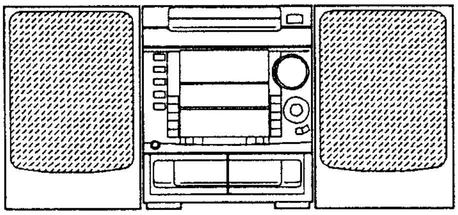
SERVICE

NSX-F9



COMPACT DISC STEREO
CASSETTE RECEIVER

- BASIC TAPE MECHANISM : 2ZM-3MK2 PR4NM
- BASIC CD MECHANISM : 6ZG-1 DFNM

- TYPE : HR

SERVICE MANUAL

SUPPLEMENT

SYSTEM	CD – CASSEIVER	SPEAKER	REMOTE CONTROLLER
NSX-F9	CX-NF9	SX–NAVF9	RC UNIT, 6AS01

- This Service Manual contains information about the difference between NSX-F9 (HR) and NSX-F9 (HE).If requiring the other information,see Service Manual of NSX-F9 (HE). 2263
  S/M code No. 09-96B-173-5FP.

- If requiring information about the Speaker, see Service Manual of SX-NAVF9, S/M Code No. 09-971-177-4FP.

2222

S/M Code No. 09–971–178–5FP

SPECIFICATIONS

<FM Tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity(IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

<MW Tuner section>

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 uV/m
Antenna	Loop antenna

<SW Tuner section>

Tuning range	5.900 MHz to 17.900 MHz
Antenna	Wire antenna

<Amplifier section>

Power output	Rated 160 W + 160 W (6 ohms,T.H.D.1%,1 kHz)) Reference: 200 W + 200 W (6 ohms, T.H.D.10%,1 kHz) *(without connecting to the SURROUND SPEAKERS)
Total harmonic distortion	0.1% (20 W, 1 kHz, 6 ohms, DIN AUDIO)
Inputs	VIDEO/AUX : 150 mV(adjustable) MIC 1,MIC 2: 1mV (10 kohms)
Outputs	LINE OUT: 200mV SUPER WOOFER: 3.1 V SPEAKERS: accept speakers of 6 ohms or more SURROUND SPEAKERS: accept speakers of 16 ohms or more PHONES (stereo jack) : accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CRo$_2$ tape: 50 Hz – 16000 Hz Normal tape: 50 Hz –15000 Hz
Singnal-to noise ratio	60 dB (Dolby B NR ON, CrO$_2$ tape peak level)
Recording system	AC bias
Heads	Deck 1 : playback head x 1 Deck 2 : Recording/Playback/ erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	83 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

<Speaker system SX–NAVF9>

Cabinet type	3 way, bass reflex (magnetic shielded type)
Speakers	Woofer : 160 mm cone type Tweeter : 80 mm cone type Super tweeter: 20 mm ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	260 x 353 x 330mm
Weight	5.9 kg

<General>

Power requirements	120 V / 220 – 230 V / 240 V AC, switchable 50/60 Hz
Power consumption	210 W
Dimensions of main unit (W x H x D)	300 x357.5 x 374 mm
Weight of main unit	13 kg

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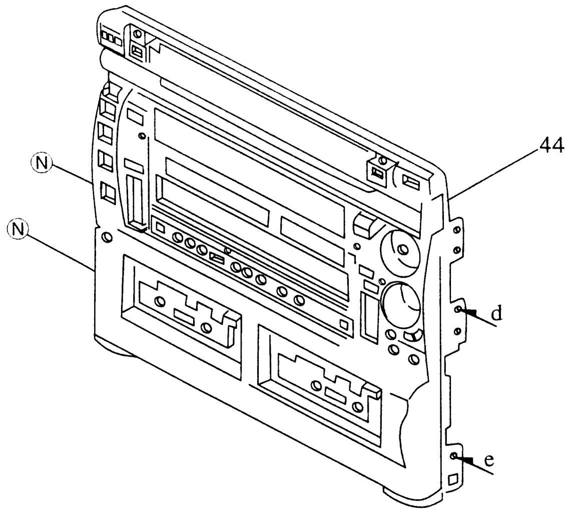
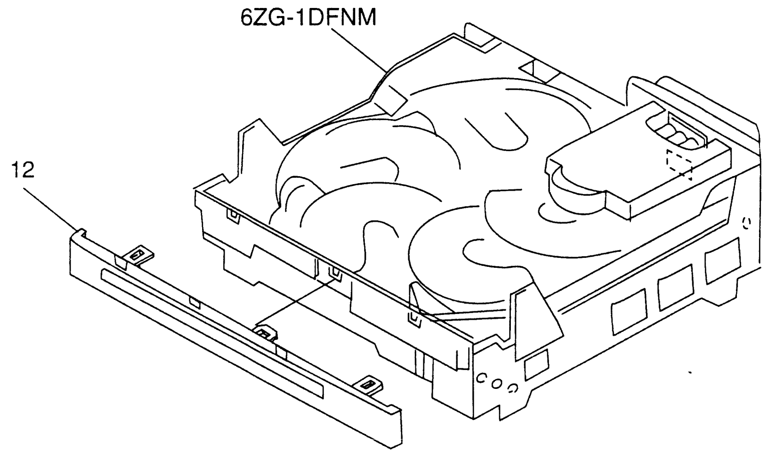
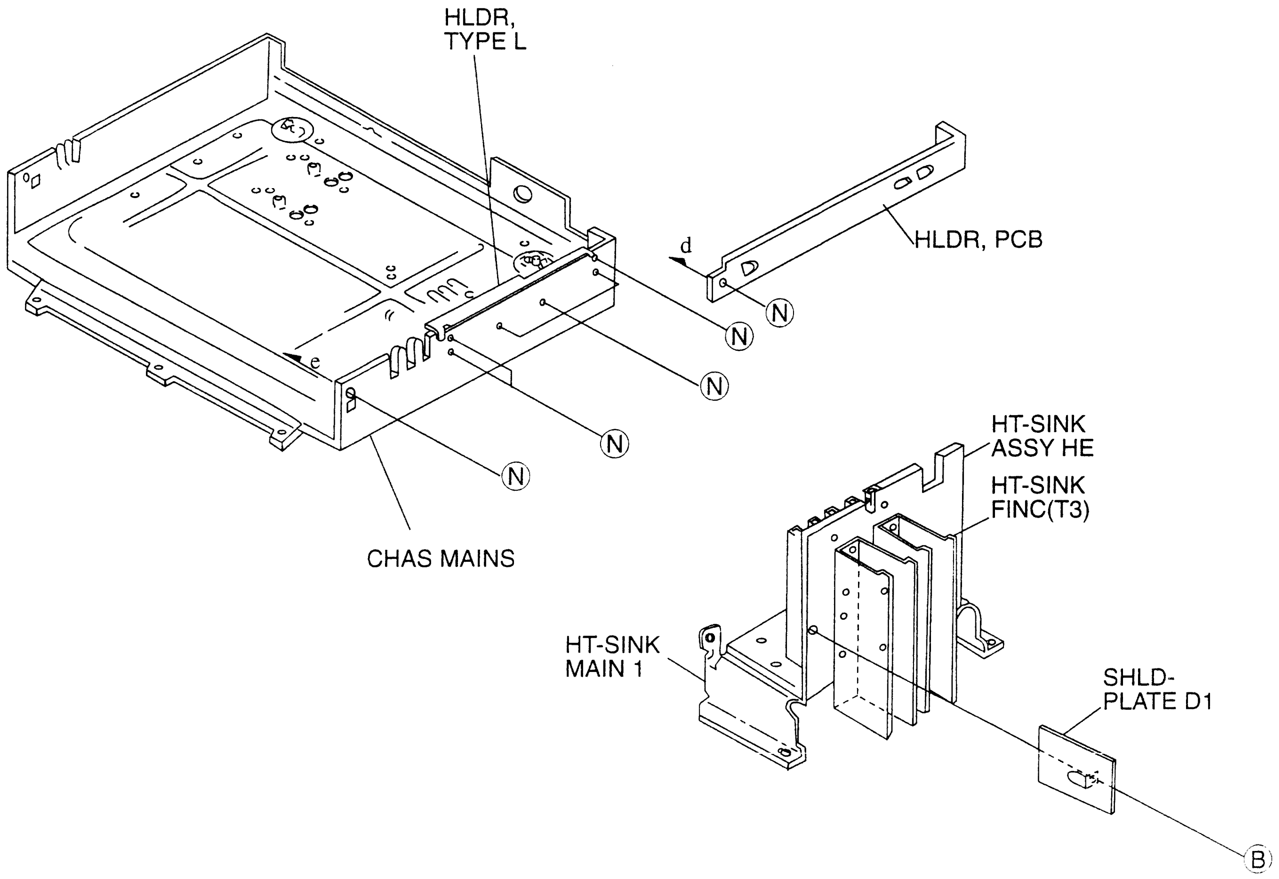
MECHANICAL EXPLODED VIEW 1/1







ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
DIODE			
	87-027-322-089		ZENER,HZ 18-2
	87-002-843-089		DIODE,1SS108
MAIN C.B			
C107	87-A10-417-089		CAP,E 47-63 SME
C261	87-010-196-089		C-CAP,S 0.1-25 Z F C
C305	87-012-157-089		C-CAP,S 330P-50 J CH
C306	87-012-157-089		C-CAP,S 330P-50 J CH
C313	87-010-179-089		C-CAP,S 1200P-50 K B
C314	87-010-179-089		C-CAP,S 1200P-50 K B
C454	87-010-176-089		C-CAP,S 680P-50 J SC
C455	87-010-178-089		C-CAP,S 1000P-50 K B
C680	87-010-196-089		C-CAP,S 0.1-25 Z F C
C700	87-018-209-089		C-CAP,TC U 0.1-50 ZF UP050
C803	87-018-209-089		C-CAP,TC U 0.1-50 ZF UP050
C815	87-018-209-089		C-CAP,TC U 0.1-50 ZF UP050
C901	87-010-196-089		C-CAP,S 0.1-25 Z F C
⚠ PR150	87-A90-091-089		PROTECTOR,2A 491 SERI
FRONT C.B			
C363	87-012-156-089		C-CAP,S 220P-50 J CH GRM
C364	87-012-156-089		C-CAP,S 220P-50 J CH GRM
C387	87-015-694-049		CAP,E 0.47-50 M 7L
C619	87-012-141-089		C-CAP,S 0.22-16 Z F
C709	87-010-198-089		C-CAP,S 0.022-25 K B
C711	87-010-197-089		C-CAP,S 0.01-25 K B
C714	87-010-596-089		C-CAP,S 0.047-16 K R
C716	87-010-198-089		C-CAP,S 0.022-25 K B
C724	87-010-198-089		C-CAP,S 0.022-25 K B
C726	87-010-197-089		C-CAP,S 0.01-25 K B
C729	87-010-596-089		C-CAP,S 0.047-16 K R
C731	87-010-198-089		C-CAP,S 0.022-25 K B
C802	87-010-196-089		C-CAP,S 0.1-25 Z F C2012
L650	87-005-481-089		COIL,47uH J FLR50
⚠ PR101	87-026-689-089		PROTECTOR,1A 491 SERI
PT C.B			
⚠ PT001	86-NF9-630-019		PT,6NF-9 H
PRO C.B			
C151	87-016-083-089		C-CAP,S 0.15-16 K R

MECHANICAL PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

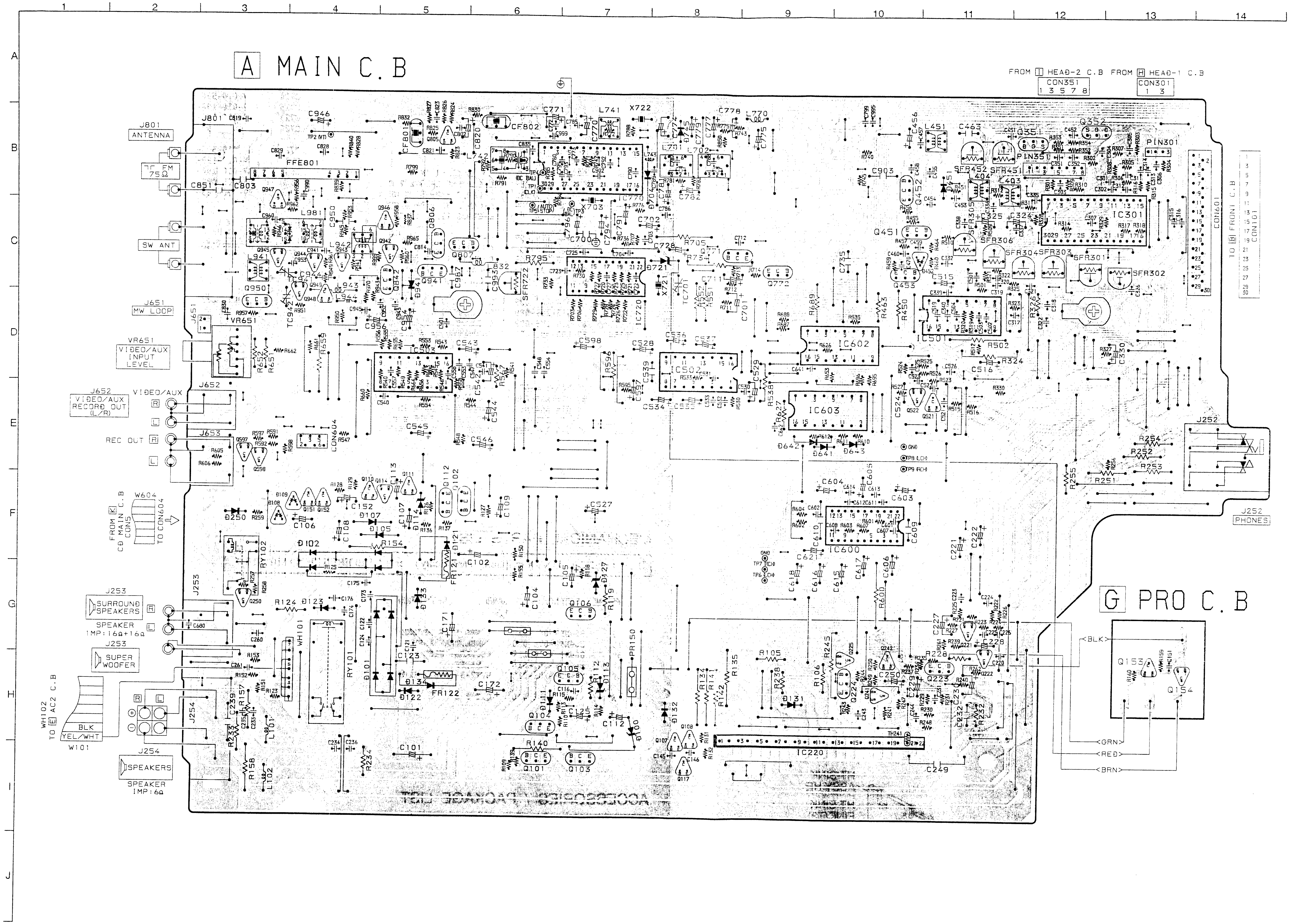
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
4	86-NF9-046-010		PANEL,REAR HRJBNM
12	86-NF9-074-010		PANEL,TRAY ASSY
39	86-NF9-016-119		KEY,ASSY DISC
44	86-NF9-001-010		CABI,FR
B	87-067-703-010		BVT2+3-10 W/O SLOT
N	87-591-095-410		QIT+3-8

ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-MA3-702-019		RC UNIT,6AS01

WIRING – 1 (MAIN)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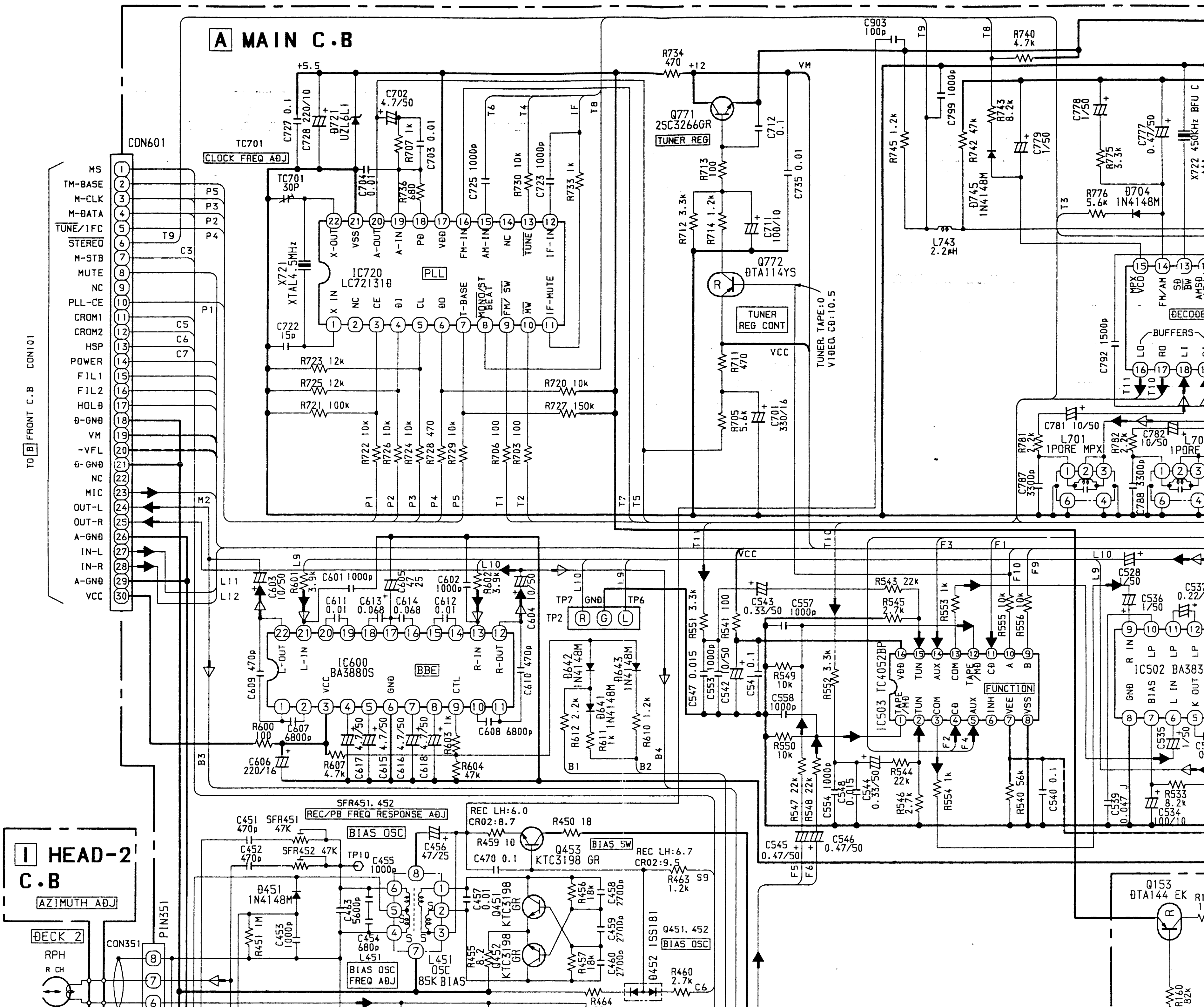
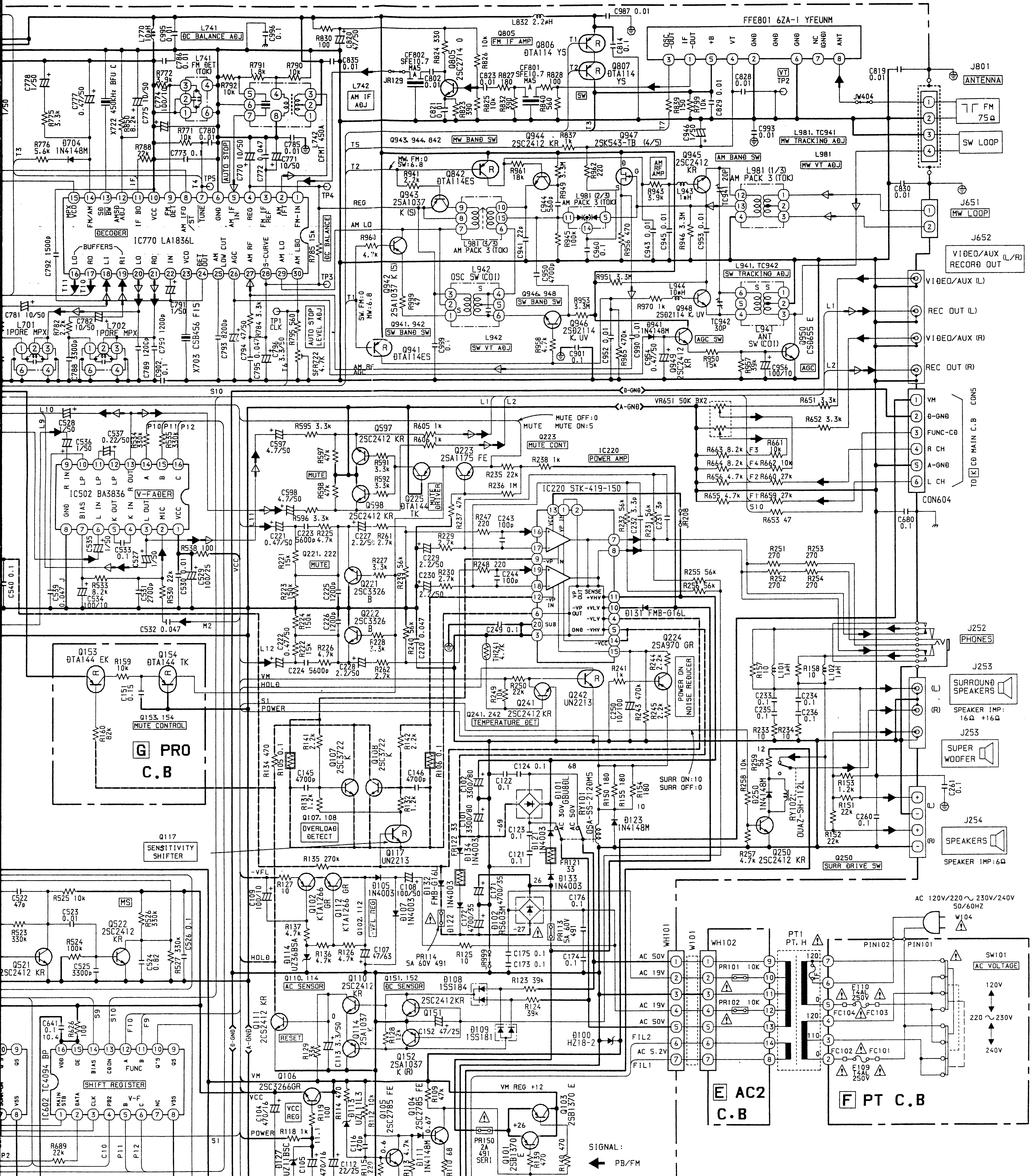
A
B
C
D
E
F
G
H
I
J
A MAIN C.B
FROM I HEAD-2 C.B
CON351
1 3 5 7 8
FROM H HEAD-1 C.B
CON301
1 3
J801
ANTENNA
FM 75Ω
SW ANT
J651
MW LOOP
VR651
VIDEO/AUX INPUT LEVEL
J652
VIDEO/AUX
VIDEO/AUX RECORD OUT (L/R)
R
L
J653
REC OUT
FROM K CD MAIN C.B CON5
W604
TO CON604
J253
SURROUND SPEAKERS
SPEAKER IMP:16Ω+16Ω
SUPER WOOFER
WH102
TO E AC2 C.B
BLK
YEL/WHT
W101
J254
SPEAKERS
SPEAKER IMP:6Ω
FFE801
CF801
CF802
IC301
IC501
IC502
IC503
IC600
IC602
IC603
IC720
IC770
IC220
RY101
RY102
PR150
FR121
FR122
TO B FRONT C.B
CON601
CON101
PIN301
PIN351
J252
PHONES
G PRO C.B
Q153
Q154
BLK
GRN
RED
BRN

SCHEMATIC DIAGRAM – 1 (MAIN)


A MAIN C.B
CON601
MS
TM-BASE
M-CLK
M-DATA
TUNE/IFC
STEREO
M-STB
MUTE
NC
PLL-CE
CROM1
CROM2
HSP
POWER
FIL1
FIL2
HOLD
D-GND
VM
-VFL
G-GND
NC
MIC
OUT-L
OUT-R
A-GND
IN-L
IN-R
A-GND
VCC
TO B FRONT C.B CON101
TC701 CLOCK FREQ ADJ
IC720 LC72131D
PLL
X721 XTAL4.5MHz
Q771 2SC3266GR
TUNER REG
Q772 DTA114YS
TUNER REG CONT
TUNER, TAPE:0 VIDEO, CD:10.5
IC600 BA3880S
BBE
TP7 GND TP6
TP2
IC503 TC4052BP
FUNCTION
IC502 BA383
DECODE
BUFFERS
L701 1PORE MPX
SFR451, 452 REC/PB FREQ RESPONSE ADJ
BIAS OSC
Q453 KTC3198 GR
BIAS SW
Q451, 452 BIAS OSC
L451 BIAS OSC FREQ ADJ
L451 OSC 85K BIAS
L404 TRAP 85K (COI)
L403 TRAP 85K (COI)
I HEAD-2 C.B
AZIMUTH ADJ
DECK 2
RPH
R CH
L CH
EH
CON351
PIN351
DECK 1
PH
CON301
PIN301
H HEAD-1 C.B
AZIMUTH ADJ
Q351, 352 2SK246 BL
REC/PB SW
SFR301~304 PB SENSITIVITY ADJ
IC301 HA12185
DECK AMP
MS
Q521, 522 MS LEVEL DET
Q521 2SC2412 KR
Q153 DTA144 EK
DECK TEST POINT
TP8
TP9
GND
IC501 CXA1552P
DOLBY AMP
SFR305, 306 REC/PB SENSITIVITY ADJ
IC603 TC4094 BP
SHIFT REGISTER
IC602 TC4094 BP
SHIFT REG
D-GND
A-GND


FFE801 6ZA-1 YFEUNM
J801
ANTENNA
FM 75Ω
SW LOOP
J651
MW LOOP
J652
VIDEO/AUX (L/R) RECORD OUT
VIDEO/AUX (L)
REC OUT (L)
VIDEO/AUX (R)
REC OUT (R)
CON5
TO K CD MAIN C.B
CON604
VM
D-GND
FUNC-CD
R CH
A-GND
L CH
IC770 LA1836L
DECODER
BUFFERS
L741 DC BALANCE ADJ
L741 FM DET (TOK)
L742 AM IF ADJ
Q805 FM IF AMP
Q806 DTA114 YS
Q807 DTA114 YS
CF802 SFE10.7 MA5
CF801 SFE10.7 MA5
L832 2.2µH
C987 0.01
AUTO STOP
AUTO STOP LEVEL ADJ
DC BALANCE
Q943, 944, 842 MW BAND SW
Q944 2SC2412 KR
Q947 2SK543-TB (4/5)
Q945 2SC2412 KR
AM BAND SW
AM RF AMP
L981 (1/3) AM PACK 3 (TOK)
L981 (2/3) AM PACK 3 (TOK)
L981 (3/3) AM PACK 3 (TOK)
L981, TC941 MW TRACKING ADJ
L981 MW VT ADJ
L942 OSC SW (CO1)
Q946, 948 SW BAND SW
L942 SW VT ADJ
L941, TC942 SW TRACKING ADJ
L941 ANT SW (CO1)
AGC SW
AGC
Q941, 942 SW BAND SW
Q941 DTA114ES
Q942 2SA1037 K (S)
Q946 2SD2114 K, UV
Q948 2SD2114 K, UV
Q949 2SC2412 KR
Q950 2SD655 E
X703 CSB456 F15
X722 450kHz BFU C
L701 1PORE MPX
L702 1PORE MPX
IC502 BA3836 V-FADER
Q597 2SC2412 KR
Q598 2SC2412 KR
MUTE
Q223 MUTE CONT
Q223 2SA1175 FE
Q225 DTA144 TK
MUTE DRIVER
MUTE OFF:0
MUTE ON:5
Q221, 222 MUTE
Q221 2SC3326 B
Q222 2SC3326 B
IC220 POWER AMP
IC220 STK-419-150
D131 FMB-G16L
Q224 2SA970 GR
POWER ON NOISE REDUCER
Q241, 242 2SC2412 KR TEMPERATURE DET
Q242 UN2213
TH241
VR651 50K BX2
J252 PHONES
J253 SURROUND SPEAKERS
SPEAKER IMP: 16Ω +16Ω
J253 SUPER WOOFER
J254 SPEAKERS
SPEAKER IMP:6Ω
Q250 2SC2412 KR
Q250 SURR DRIVE SW
RY102 OUAZ-SH-112L
RY101 OSA-SS-212DM5
SURR ON:10
SURR OFF:0
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Q154 DTA144 TK
Q153, 154 MUTE CONTROL
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Q117 SENSITIVITY SHIFTER
Q107 2SC3722 K
Q108 2SC3722 K
Q107, 108 OVERLOAD DETECT
Q117 UN2213
D101 GBU8DL
D102 RS603M
Q102 KTA1266 GR
Q112 KTA1266 GR
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D114 UZ36BSA
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Q151, 152 DC SENSOR
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Q105 2SC2785 FE
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W101
WH102
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AC 19V
AC 5.2V
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FIL2
PR101 10K
PR102 10K
AC 120V/220~230V/240V 50/60HZ
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SW101 AC VOLTAGE
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220~230V
240V
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F109 T4AL 250V
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FC102
FC103
FC104
PIN101
PIN102
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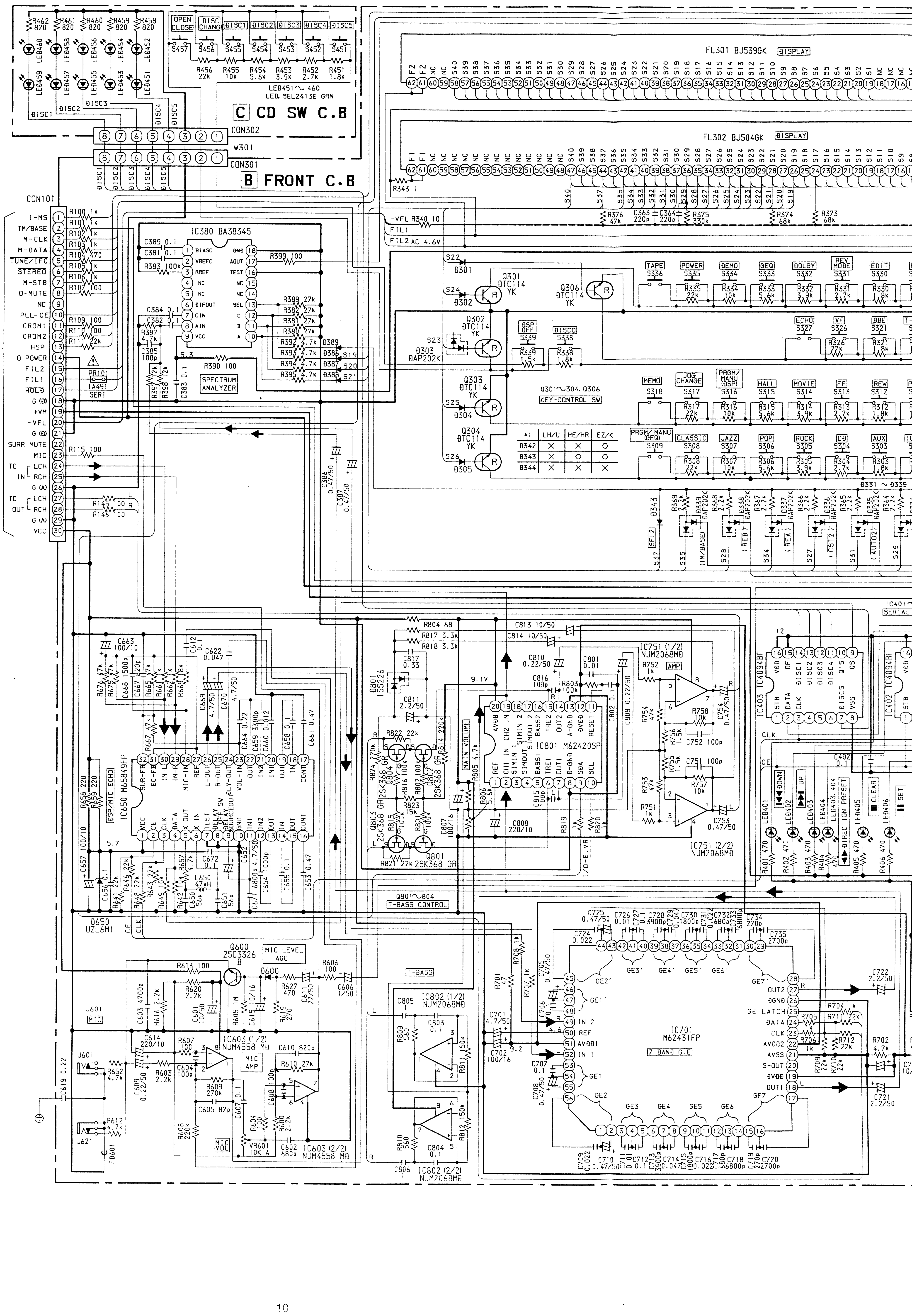
PB/FM
REC/AM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IC603 (2/2) NJM4558 MD
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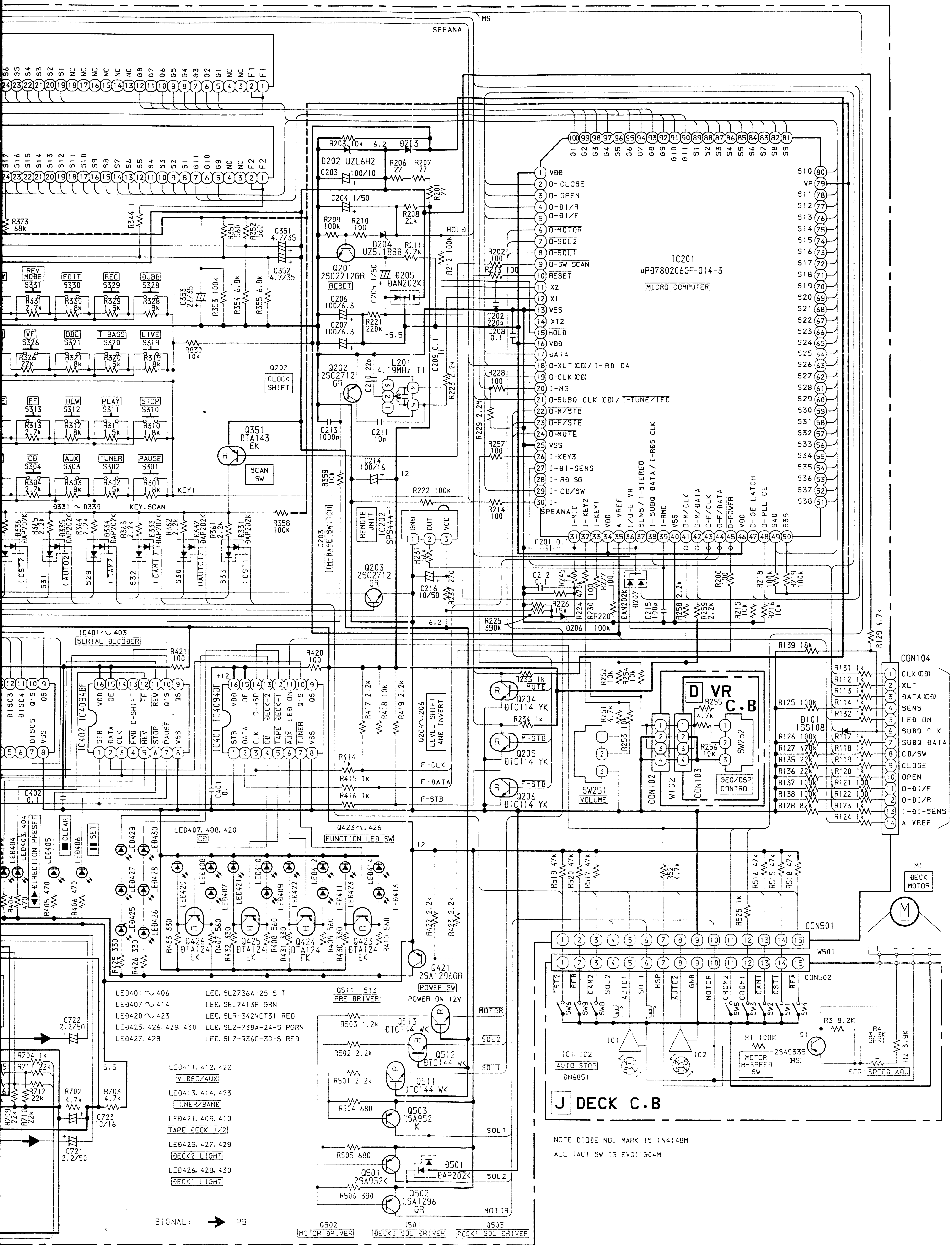
SPEANA
MS
IC201
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O-CLOSE
O-OPEN
O-DI/R
O-DI/F
O-MOTOR
O-SOL2
O-SOL1
O-SW SCAN
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X2
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VSS
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O-XLT (CD) / I-RD DA
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O-M/STB
O-F/STB
O-MUTE
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I-DI-SENS
I-RD SG
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Q501
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Q503
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CON501
W501
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REB
CAM2
SOL2
AUTO1
SOL1
HSP
AUTO2
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MOTOR
CROM2
CROM1
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CST1
REA
IC1
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AUTO STOP
DN6851
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Q1
2SA933S (RS)
SFR1 SPEED ADJ
J DECK C.B
SIGNAL: → PB

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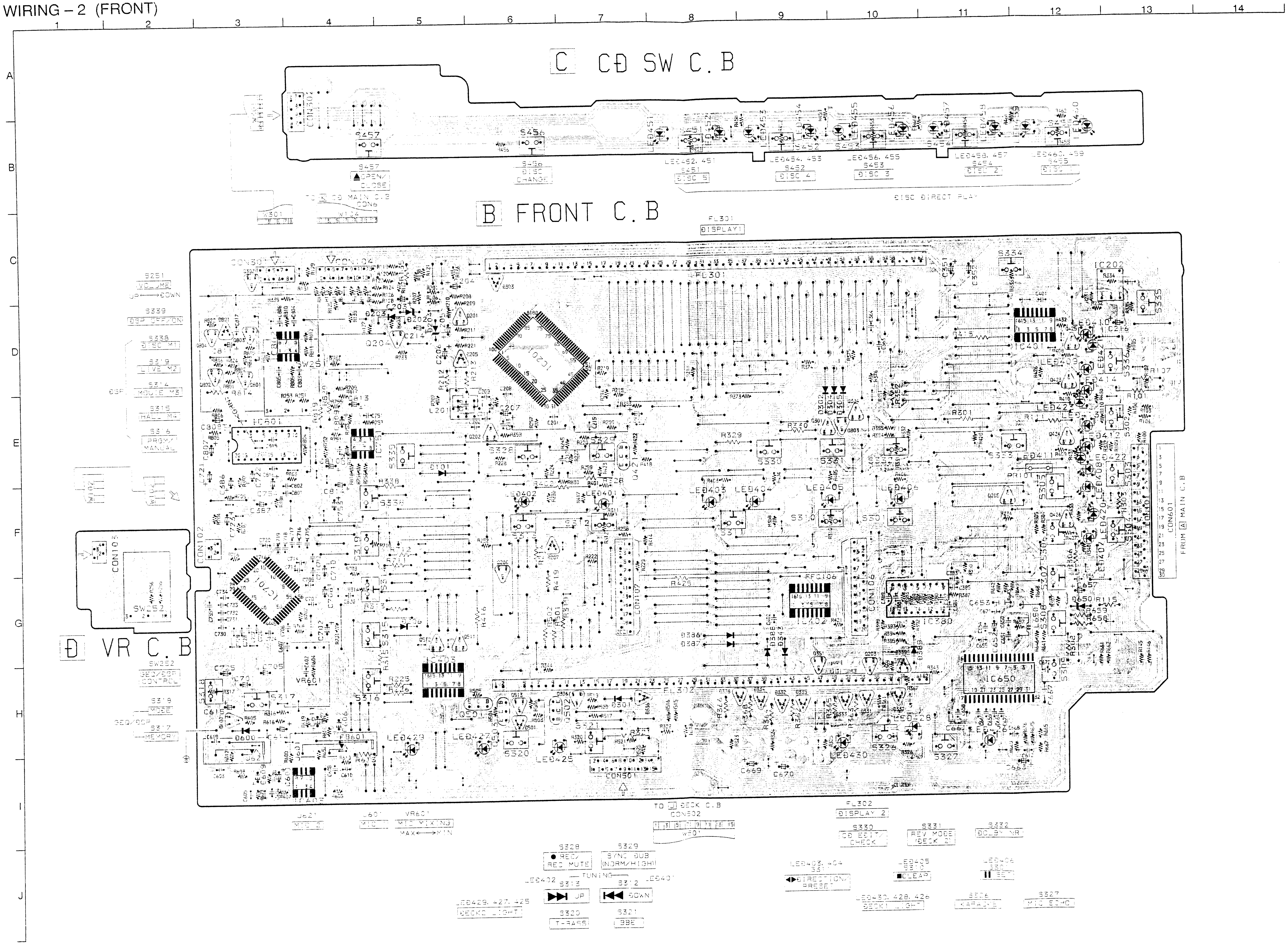
NOTE DIODE NO. MARK IS 1N4148M

ALL TACT SW IS EVQ11G04M

WIRING - 2 (FRONT)



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KARAOKE
S327
MIC ECHO

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

►

サービス技術ニュース	
番号	連絡内容
G－　－	
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アイワ株式会社
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9301978
Printed in Singapore

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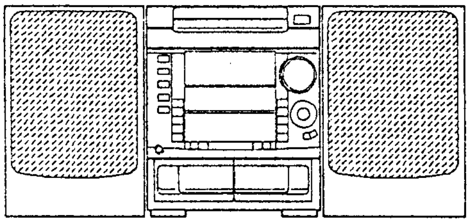
SERVICE

NSX-F9
NSX-F98
NSX-F99



COMPACT DISC STEREO
CASSETTE RECEIVER

- BASIC TAPE MECHANISM : 2ZM-3MK2 PR4NM <U>
  2ZM-3MK2 YPR4N<EZ,K>
- BASIC CD MECHANISM : 6ZG-1 DFNM <U,EZ> ,6ZG-1 YDFNM <K>

- TYPE : EZ,K <F9>
  U <F98,F99>

SYSTEM	CD – CASSEIVER	SPEAKER	REMOTE CONTROLLER
NSX-F9	CX-NF9 (TYPE:EZ,K)	SX–NAVF9	RC UNIT, 6AS01
NSX-F98	CX-NF98 (TYPE:U)	SX–FNF98	
NSX-F99	CX-NF99 (TYPE:U)	SX–NAVF99	

- If requiring information about the Speaker, see Service Manual of SX-NAVF9, SX-FNF98, SX-NAVF99, S/M Code No. 09-971-177-4FP.

S/M Code No. 09–971–178–4FP

SERVICE MANUAL

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SPECIFICATIONS

<FM Tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity(IHF)	EZ, K: 16.8 dBf U: 13.2 dBf
Antenna terminals	75 ohms (unbalanced)

<MW Tuner section>

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 uV/m
Antenna	Loop antenna

<LW Tuner section> (EZ, K)

Tuning range	144 kHz to 290 kHz
Usable sensitivity	1400 uV/m
Antenna	Loop antenna

<Amplifier section>

Power output	EZ, K: Rated 160 W + 160 W (6 ohms,T.H.D.1%,1 kHz/DIN 45500) Reference: 200 W + 200 W (6 ohms, T.H.D.10%,1 kHz/ DIN 45324) DIN MUSIC POWER 280 W + 280 W *(without connecting to the SURROUND SPEAKERS) U: 160 W + 160 W (50 Hz-20 kHz, THD less than 1%, 6 ohms)
Total harmonic distortion	EZ, K: 0.1% (20 W, 1 kHz, 6 ohms, DIN AUDIO) U: 0.1% (20 W, 1 kHz, 6 ohms)
Inputs	VIDEO/AUX : 150 mV(adjustable) MIC 1,MIC 2: 1mV (10 kohms)
Outputs	LINE OUT: 200mV SUPER WOOFER: 3.1 V SPEAKERS: accept speakers of 6 ohms or more SURROUND SPEAKERS: accept speakers of 16 ohms or more PHONES (stereo jack) : accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CRo$_2$ tape: 50 Hz – 16000 Hz Normal tape: 50 Hz –15000 Hz
Singnal-to noise ratio	60 dB (Dolby B NR ON, CrO$_2$ tape peak level)
Recording system	AC bias
Heads	Deck 1 : playback head x 1 Deck 2 : Recording/Playback/ erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	83 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

<Speaker system SX–NAVF9> (EZ, K)
<Speaker system SX–NAVF99> (99U)

Cabinet type	3 way, bass reflex (magnetic shielded type)
Speakers	Woofer : 160 mm cone type Tweeter : 80 mm cone type Super tweeter: 20 mm ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	260 x 353 x 330mm ($10^1/_4$ x 14 x 13 in.)
Weight	5.9 kg (13 lbs.)

<Speaker system SX–FNF98> (98U)

Cabinet type	3 way, bass reflex with surround speaker (magnetic shielded type)
Speakers	Woofer : 160 mm cone type Tweeter : 80 mm cone type Super tweeter: 20 mm ceramic type Surround speaker: 80 mm cone type
Impedance	Front speaker: 6 ohms Surround speaker: 16 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	260 x 353 x 310mm ($10^1/_4$ x 14 x $12^1/_4$ in.)
Weight	5.9 kg (12 lbs. 13 oz.)

<General> (EZ, K)

Power requirements	230 V AC,50 Hz
Power consumption	EZ: 210 W K: 220 W
Dimensions of main unit (W x H x D)	300 x 357.5 x 374 mm
Weight of main unit	13 kg

<General> (U)

Power requirements	120 V AC,60 Hz
Power consumption	165 W
Dimensions of main unit (W x H x D)	300 x 357.5 x 374 mm ($11^7/_8$ x $14^1/_8$ x $14^3/_4$ in.)
Weight of main unit	13 kg (28 lds. 11 oz.)

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CD DISASSEMBLY INSTRUCTIONS

1. ピックアップの交換方法
   1）TRAY をｵｰﾌﾟﾝさせる。
      stopper を矢印の方向へ押し、SHAFT SLED 半分だけ抜く。
   2）GEAR MAIN CAMを反時計方向（"a" の方向）に回し、figure 1のようにCDﾒｶを持ち上げる。
   3）SHAFT SLED を抜く。
   4）CDﾒｶを下げてPICK UPを交換する。
   5）CDﾒｶをfigure 1のように上げて、SHAFT SLEDを取り付ける。

1. How to replace PICK UP.
   1) Open the TRAY.
      Push the stopper to arrow direction and release half of the SHAFT SLED.
   2) Turn GEAR MAIN CAM to the counterclockwise (arrow "a") direction, and lift up CD mechanism. (figure 1)
   3) Remove SHAFT SLED.
   4) CD mechanism in down position, replace PICK UP.
   5) Lift up CD mechanism (figure 1), and Reassemble the SHAFT SLED.

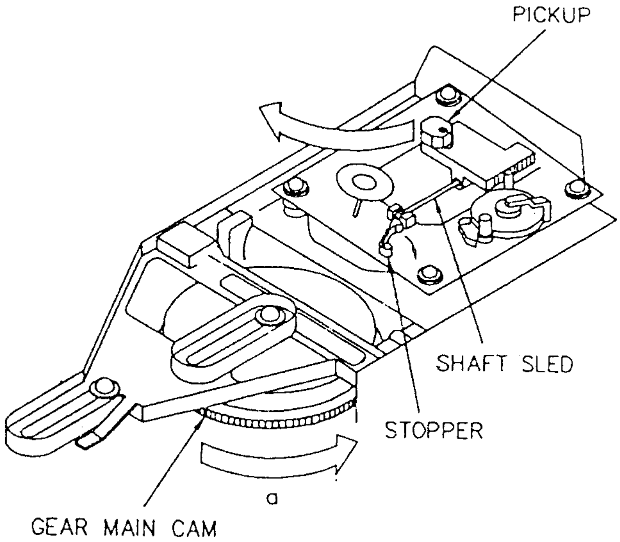


Figure 1

2.5 巻ﾁｪﾝｼﾞｬｰﾌﾞﾛｯｸの外し方 (figure 2)
   1）CD基板のFFC 2 本を外し、ﾋﾞｽ5本を外す。
   2）5巻ﾁｪﾝｼﾞｬｰﾌﾞﾛｯｸを後から持ち上げて外す。
      (PANEL TRAY を外さなくても、5ﾁｪﾝｼﾞｬｰﾌﾞﾛｯｸを後から外すことができる。)

2. How to remove 5CD CHANGER BLOCK (figure 2)
   1) Remove the two FFC of the CD circuit board, and remove the five SCREWS.
   2) Lift 5 CD CHANGER BLOCK from behind, and remove it.
      (5CD CHANGER BLOCK can be removed even if PANEL TRAY are not removed.)

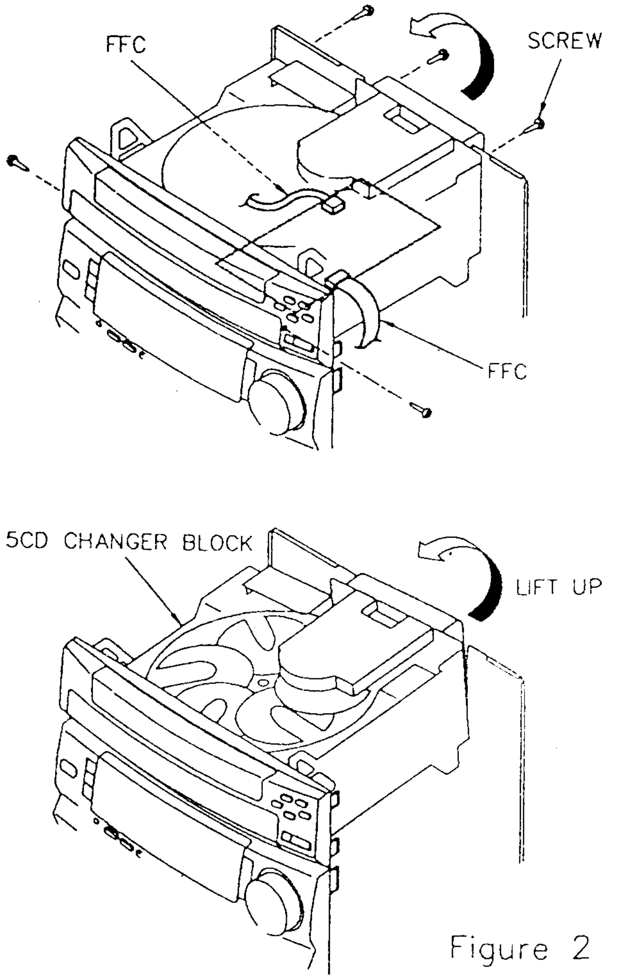


Figure 2

3 TRAY の分解・組立て方法

（1） 分解方法

1）CHAS MECHA 下部のPLATE GEARのﾎﾞｽを外側（矢印“b”方向）に強く押す。(figure 3)
（TRAY が少しせり出すのを確認する)

2） TRAY をｵｰﾌﾟﾝ位置まで引き出す。

3） FFC を抜き、両ｻｲﾄﾞのCHAS MECH ﾂﾒ（2ケ所）を押してTRAYを外す。(figure 4)

3. The disassemble and reassemble the TRAY

(1) Disassembling procedure.

1) Push the PLATE GEAR'S Bossat the bottom part of CHAS MECHA strongly to the outside (arrow “b” direction). (figure 3)
(Confirm that TRAY appears a little in the front.)

2) Draw TRAY to the open position.

3) Remove FFC, and push the two LEVERS at both side of the CHAS MECH to remove TRAY. (figure 4)

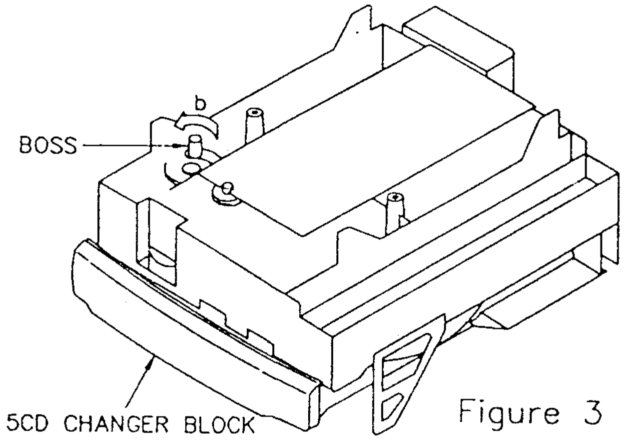
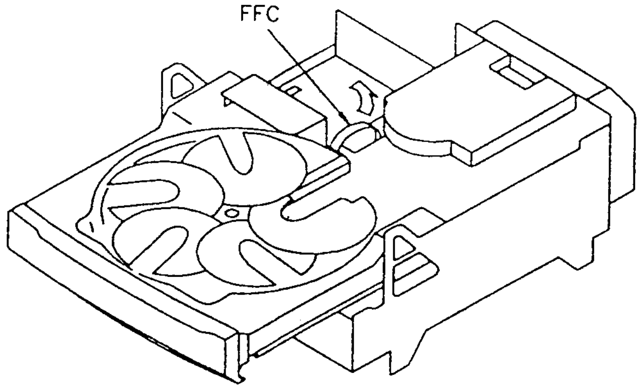


Figure 3



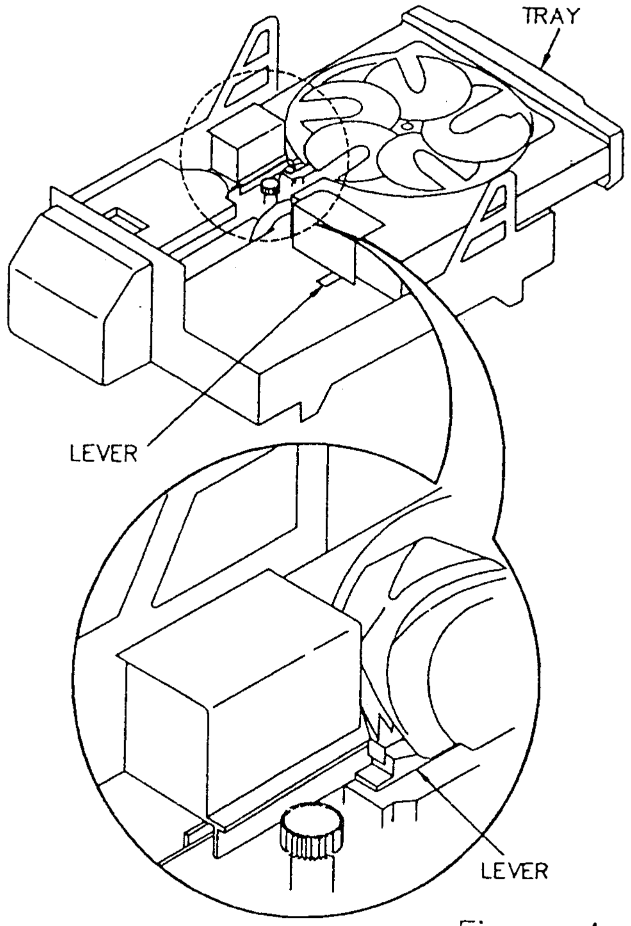


Figure 4

（2） 組立て方法

1） LEVER TRAY が figure 5 の位置で、CD ﾒｶが下がっていることを確認する．

2） TRAY をCHAS MECHAのﾚｰﾙに沿って組み込む。

3） 半分までTRAY を組み込んだらFFCを差し、TRAYを最後まで押し入れる。(figure 6)

(2) Reassembling procedure.

1) Confirm that LEVER TRAY is at the most right position in order for the CD Mechanism to be in the down position. (figure 5)

2) Push in the TRAY along the rail of the CHAS MECHA.

3) After TRAY is half closed and FFC is put in, it can enter by force until the end of TRAY closed. (figure 6)

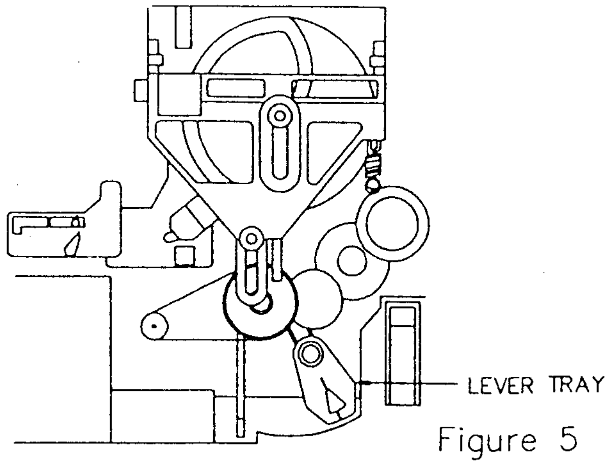


Figure 5

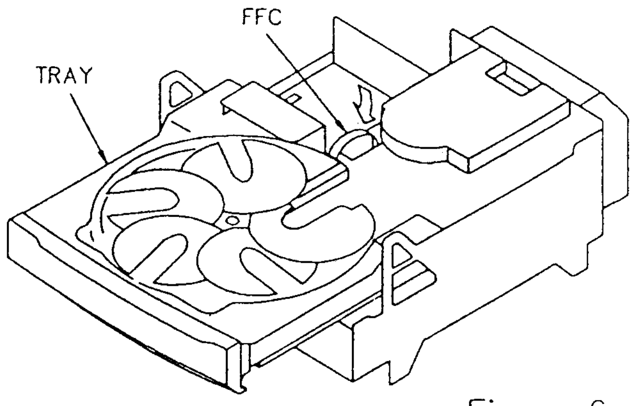


Figure 6

4. ﾀｰﾝﾃｰﾌﾞﾙの組立方法 (figure 7)

1）LEVER TT を“C”の方向に押しながら、TURN TABLE 5CD を組み込む。(figure 7)
この時、TRAY 5CD とTURN TABLE 5CD の切り欠きが同じ方向になるようにする。(figure 8)

* 組み込む際のTURN TABLE 5CDのCD番号（1～5）は任意で構いません。(figure 7)

4. How to reassemble the TURN TABLE. (figure 7)

1) Push LEVER TT in the direction of "C", and put in the TURN TABLE 5CD. (figure 7)
After reassembly, one of the TURN TABLE DISC TRAY (can be either one of the five disc trays) must be aligned with TURN TABLE 5CD. (figure 8)
That is, having no gap difference between the TURN TABLE 5CD and the TRAY 5CD.

* When reassembling the TURN TABLE 5CD, it is acceptable facing any CD numbe r (1～5).

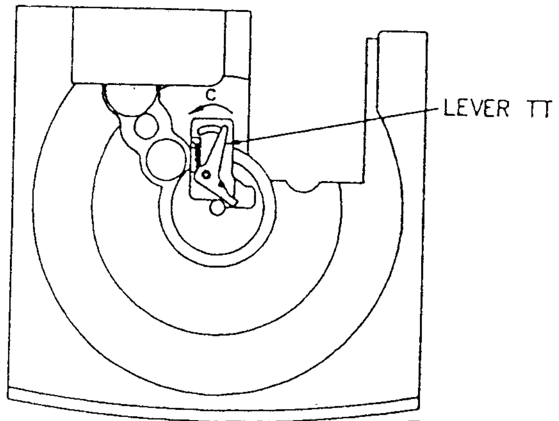


Figure 7

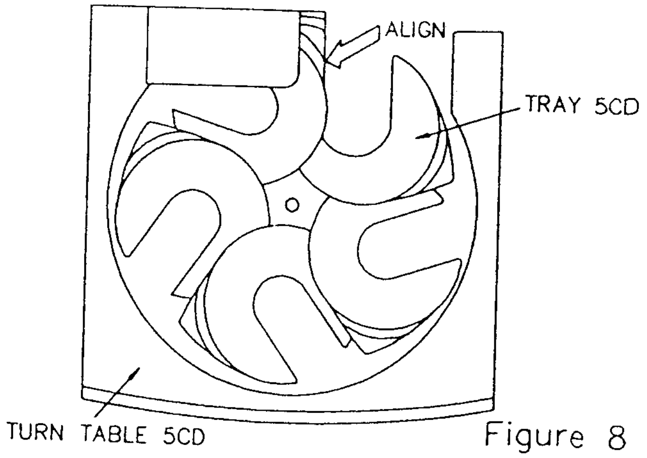


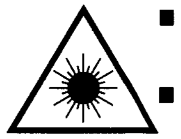
Figure 8

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstäling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saataa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herin may result in hazardous radiation exposure.

ATTENTION

L'utillisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL

Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

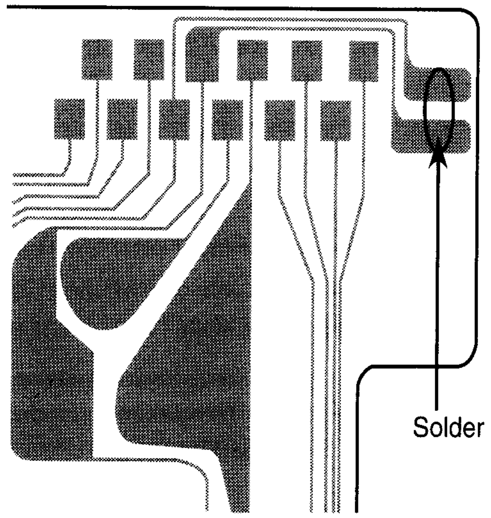
Precaution to replace Optical block

(KSS-213B)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use the clothes do not touch the diode.

1) After the connection, remove solder shown in figure below.

PICK – UP Assy P.C.B.



ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-017-745-019		IC,CXA1782BQ
	87-070-294-019		C-IC,CXD2508AQ
	87-070-305-019		IC,BA6897S
	87-001-982-019		IC,TA7291S
	87-017-888-089		IC,NJM4558MD
	86-NF9-621-010		IC,UPD78020BGF-011-3BA<EZ>
	86-NF9-620-010		IC,UPD780206GF-014-3BA<K,U>
	87-A20-154-010		IC,SPS-444-1
	87-A20-264-010		IC,STK-419-150
	87-070-121-010		IC,HA12185
	87-070-232-010		IC,BA3834S
	87-017-375-080		C-IC,TC4094BF
	87-A20-355-010		IC,CXA1553P
	87-A20-107-010		IC,BA3836
	87-027-666-010		IC,TC4052BP
	87-A20-056-010		IC,BA3880S
	87-017-374-010		IC,TC4094BP
	87-017-888-080		C-IC,NJM4558MD
	87-A20-067-040		C-IC,M65849FP
	87-A20-437-010		C-IC,M62431FP
	87-070-127-110		IC,LC72131D
	87-017-022-080		C-IC,NJM2068M-D(T1)
	87-017-714-110		IC,LA1836L
	87-A20-312-010		IC,M62420SP
	87-020-454-010		IC,DN6851
	87-A20-440-040		IC,BU1920FS<EZ>
	87-001-792-080		IC,NJM2100M<EZ>
TRANSISTOR			
	89-213-702-010		TR,2SB1370E
	87-026-609-080		TR,KTA1266GR
	87-A30-065-080		TR,2SC2785FE
	89-332-665-080		TR,2SC3266GR
	89-337-221-380		C-TR,2SC3722K(R/S/E)
	89-324-122-080		C-TR,2SC2412KR
	89-110-372-080		C-TR,2SA1037K(R)
	87-026-635-080		C-TR,UN2213
	89-327-125-080		C-TR,2SC2712GR
	87-026-239-080		C-TR,DTC114TK
	87-026-233-080		C-TR,DTA114TK
	87-026-211-080		C-TR,DTA114EK
	89-111-625-080		C-TR,2SA1162 GR
	87-026-213-080		C-TR,DTC114YK
	87-026-463-080		TR,2SA933S(RS)
	87-110-155-080		TR,2SA1015GR
	87-A30-047-080		TR,CSD655E
	89-421-722-389		TR,2SD2172V/W
	87-026-223-080		C-TR,DTC143TK
	89-320-011-080		TR,2SC2001K
	87-026-608-080		C-TR,DTC123JK
	89-333-266-080		C-TR,2SC3326B
	87-A30-066-080		TR,2SA1175FE
	89-109-705-080		TR,2SA970GR
	87-026-297-080		C-TR,DTA144TK
	87-026-226-080		C-TR,DTA143EK
	89-502-466-080		FET,2SK246BL
	89-112-965-080		TR,2SA1296GR
	87-026-228-080		C-TR,DTA124EK
	87-026-610-080		TR,KTC3198GR
	89-109-521-080		TR,2SA952K
	87-026-238-080		C-TR,DTC144WK
	87-026-214-080		TR,DTA114YS
	89-503-685-080		C-FET,2SK368GR
	89-327-143-080		C-TR,2SC2714O
	89-421-141-280		C-TR,2SD2114KU
	89-505-434-540		C-FET,2SK543-TB(4/5)
	87-026-636-080		C-TR, UN2214<EZ>

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
DIODE			
	87-017-437-080		DIODE,1N4148M
	87-A40-224-010		DIODE,GBU8DL
	87-A40-115-060		DIODE,RS603M
	87-017-978-080		DIODE,1N4003
	87-020-027-080		C-DIODE,1SS184
	87-020-125-080		C-DIODE,1SS181
	87-A40-200-080		ZENER,UZL11L3
	87-A40-211-080		ZENER,UZ36BSA
	87-A40-207-080		ZENER,UZ11BSC
	87-A40-274-010		DIODE,FMB-G16L
	87-A40-199-080		ZENER,UZL6H2
	87-A40-202-080		ZENER,UZ5.1BSB
	87-020-331-080		C-DIODE,DAN202K
	87-020-465-080		DIODE,1SS133
	87-020-330-080		C-DIODE,DAP202K
	87-A40-198-080		ZENER,UZL6M1
	87-A40-197-080		ZENER,UZL6L1
	87-020-339-080		C-DIODE,1SS226
	87-027-322-089		ZENER,HZ-18-2
	87-002-843-089		DIODE,1SS108<EZ,K>
MAIN C.B			
C101	87-A10-231-090		CAP,E 3300-80
C102	87-A10-231-090		CAP,E 3300-80
C104	87-010-235-080		CAP,E 470-16 SME
C105	87-010-235-080		CAP,E 470-16 SME
C107	87-A10-417-089		CAP,E 47-63 SME
C108	87-010-247-080		CAP,E 100-50 M SME
C109	87-010-263-080		CAP,E 100-10 SME
C112	87-010-382-080		CAP,E 22-25 M SME
C113	87-010-403-080		CAP,E 3.3-50 M SME
C116	87-012-140-080		C-CAP,S 470P-50 J CH
C121	87-012-368-080		C-CAP,S 0.1-50 Z F
C122	87-012-368-080		C-CAP,S 0.1-50 Z F
C123	87-018-209-080		CAP,TC U 0.1-50 Z F UP050
C124	87-012-368-080		C-CAP,S 0.1-50 Z F
C125	87-010-263-080		CAP,E 100-10 SME<U>
C145	87-010-186-080		C-CAP,S 4700P-50 K B
C146	87-010-186-080		C-CAP,S 4700P-50 K B
C152	87-010-260-080		CAP,E 47-25 SME
C171	87-A10-056-090		CAP,E 4700-35 M
C172	87-A10-056-090		CAP,E 4700-35 M
C173	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C174	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C175	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C176	87-015-785-080		C-CAP, 0.1-25 Z F
C220	87-010-194-080		C-CAP,S 0.047-25 Z F
C221	87-010-400-080		CAP,E 0.47-50 M SME
C222	87-010-400-080		CAP,E 0.47-50 M SME
C223	87-010-187-080		C-CAP,S 5600P-50 K B
C224	87-010-187-080		C-CAP,S 5600P-50 K B
C225	87-010-179-080		C-CAP,S 1200P-50 K B
C226	87-010-179-080		C-CAP,S 1200P-50 K B
C227	87-010-402-080		CAP,E 2.2-50 M SME
C228	87-010-402-080		CAP,E 2.2-50 M SME
C229	87-010-402-080		CAP,E 2.2-50 M SME
C230	87-010-402-080		CAP,E 2.2-50 M SME
C231	87-010-147-080		C-CAP,S 3P-50 C CH GRM
C232	87-018-098-080		CAP,TC U 3.3P-50 K SL UP050
C233	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C234	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C235	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C236	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C241	87-010-197-080		C-CAP,S 0.01-25 K B<EZ,K>
C242	87-010-197-080		C-CAP,S 0.01-25 K B<EZ,K>
C243	87-010-322-080		C-CAP,S 100P-50 J CH
C244	87-010-322-080		C-CAP,S 100P-50 J CH

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C245	87-010-318-080		C-CAP,S 47P-50 J CH<EZ,K>
C246	87-010-293-080		C-CAP,47P-50 J CH<EZ,K>
C249	87-018-209-080		CAP,TC U 0.1-50 Z F UP050
C250	87-A10-200-080		CAP,E 10-100 M BP SME
C251	87-015-632-080		C-CAP,0.015-50 K B<EZ,K>
C252	87-010-191-080		C-CAP,S 0.015-50 Z F GRM<EZ,K>
C255	87-010-322-080		C-CAP,S 100P-50 J CH<EZ,K>
C256	87-010-322-080		C-CAP,S 100P-50 J CH<EZ,K>
C257	87-010-196-080		C-CAP,S 0.1-25 Z F C2012<EZ,K>
C260	87-015-785-080		C-CAP, 0.1-25 Z F
C261	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C301	87-010-318-080		C-CAP,S 47P-50 J CH
C302	87-010-318-080		C-CAP,S 47P-50 J CH
C303	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C304	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C305	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C306	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C307	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C311	87-010-198-080		C-CAP,S 0.022-25 K B
C312	87-010-198-080		C-CAP,S 0.022-25 K B
C313	87-010-179-080		C-CAP,S 1200P-50 K B
C314	87-010-179-080		C-CAP,S 1200P-50 K B
C315	87-010-179-080		C-CAP,S 1200P-50 K B
C316	87-010-179-080		C-CAP,S 1200P-50 K B
C317	87-016-492-080		C-CAP,S 0.33-16 Z F
C318	87-016-492-080		C-CAP,S 0.33-16 Z F
C319	87-016-491-080		C-CAP,S 0.22-16 Z F C2021
C320	87-016-491-080		C-CAP,S 0.22-16 Z F C2021
C321	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C322	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C324	87-010-260-080		CAP,E 47-25 SME
C325	87-010-370-080		CAP,E 330-6.3 M SME
C326	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C330	87-010-405-080		CAP,E 10-50 M SME
C332	87-015-785-080		C-CAP, 0.1-25 Z F
C335	87-016-462-080		C-CAP,S 1-16 Z F
C336	87-016-462-080		C-CAP,S 1-16 Z F
C337	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C338	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C339	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C340	87-015-785-080		C-CAP, 0.1-25 Z F
C351	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C352	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C451	87-012-140-080		C-CAP,S 470P-50 J CH
C452	87-012-140-080		C-CAP,S 470P-50 J CH
C453	87-010-178-080		C-CAP,S 1000P-50 K B
C454	87-010-175-080		C-CAP,S 560P-50 J SL<EZ,K>
C454	87-010-176-089		C-CAP,S 680P-50 J SL<U>
C455	87-010-178-089		C-CAP,S 1000P-50 K B
C456	87-010-260-080		CAP,E 47-25 SME
C457	87-010-197-080		C-CAP,S 0.01-25 K B
C458	87-010-183-080		C-CAP,S 2700P-50 K B
C503	87-012-155-080		C-CAP,S 180P-50 J CH GRM
C504	87-012-155-080		C-CAP,S 180P-50 J CH GRM
C515	87-010-545-080		CAP,E 0.22-50 M SME
C516	87-010-545-080		CAP,E 0.22-50 M SME
C519	87-015-785-080		C-CAP, 0.1-25 Z F
C521	87-010-197-080		C-CAP,S 0.01-25 K B
C522	87-010-318-080		C-CAP,S 47P-50 J CH
C523	87-010-197-080		C-CAP,S 0.01-25 K B
C525	87-010-184-080		C-CAP,S 3300P-50 K B
C526	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C527	87-010-401-080		CAP,E 1-50 M SME
C528	87-010-401-080		CAP,E 1-50 M SME
C529	87-010-384-080		CAP,E 100-25 M SME
C530	87-010-197-080		C-CAP,S 0.01-25 K B
C531	87-010-183-080		C-CAP,S 2700P-50 K B
C532	87-010-194-080		C-CAP,S 0.047-25 Z F
C533	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C534	87-010-263-080		CAP,E 100-10 SME

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C535	87-010-401-080		CAP,E 1-50 M SME
C536	87-010-401-080		CAP,E 1-50 M SME
C537	87-010-545-080		CAP,E 0.22-50 M SME
C538	87-012-142-080		C-CAP,S 0.33-16 Z F
C540	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C541	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C542	87-010-405-080		CAP,E 10-50 M SME
C543	87-010-546-080		CAP,E 0.33-50 SME
C544	87-010-546-080		CAP,E 0.33-50 SME
C545	87-010-400-080		CAP,E 0.47-50 M SME
C546	87-010-400-080		CAP,E 0.47-50 M SME
C547	87-015-883-080		C-CAP, 0.022-50 K B<U>
C547	87-015-632-080		C-CAP,0.015-50 K B<EZ,K>
C548	87-015-883-080		C-CAP, 0.022-50 K B<U>
C548	87-015-632-080		C-CAP,0.015-50 K B<EZ,K>
C553	87-015-627-080		C-CAP,1000P-50 K B
C554	87-015-627-080		C-CAP,1000P-50 K B
C557	87-010-178-080		C-CAP,S 1000P-50 K B
C558	87-010-178-080		C-CAP,S 1000P-50 K B
C597	87-010-404-080		CAP,E 4.7-50 M SME
C598	87-010-404-080		CAP,E 4.7-50 M SME
C601	87-010-178-080		C-CAP,S 1000P-50 K B
C602	87-010-178-080		C-CAP,S 1000P-50 K B
C603	87-010-405-080		CAP,E 10-50 M SME
C604	87-010-405-080		CAP,E 10-50 M SME
C605	87-010-260-080		CAP,E 47-25 SME
C606	87-010-101-080		CAP,E 220-16 SME
C607	87-010-188-080		C-CAP,S 6800P-50 K B
C608	87-010-188-080		C-CAP,S 6800P-50 K B
C609	87-018-127-080		CAP,TC U 470P-50 K B UP050
C610	87-018-127-080		CAP,TC U 470P-50 K B UP050
C611	87-010-197-080		C-CAP,S 0.01-25 K B
C612	87-010-197-080		C-CAP,S 0.01-25 K B
C613	87-010-195-080		C-CAP,S 0.068-25 Z F C2012
C614	87-010-195-080		C-CAP,S 0.068-25 Z F C2012
C615	87-010-404-080		CAP,E 4.7-50 M SME
C616	87-010-404-080		CAP,E 4.7-50 M SME
C617	87-010-404-080		CAP,E 4.7-50 M SME
C618	87-010-404-080		CAP,E 4.7-50 M SME
C641	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C642	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C675	87-010-318-080		C-CAP,S 47P-50 J CH<EZ,K>
C676	87-010-318-080		C-CAP,S 47P-50 J CH<EZ,K>
C680	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C700	87-018-209-080		CAP,TC U 0.1-50 Z F UP050<U>
C701	87-010-381-080		CAP,E 330-16 SME
C702	87-010-404-080		CAP,E 4.7-50 M SME
C703	87-010-197-080		C-CAP,S 0.01-25 K B
C704	87-010-197-080		C-CAP,S 0.01-25 K B
C711	87-010-263-080		CAP,E 100-10 SME
C712	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C720	87-018-131-080		CAP,TC U 1000P-50 K
C721	87-010-178-080		C-CAP,S 1000P-50 K B<EZ,K>
C722	87-010-312-080		C-CAP,S 15P-50 J CH
C723	87-010-178-080		C-CAP,S 1000P-50 K B
C725	87-010-178-080		C-CAP,S 1000P-50 K B
C727	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C728	87-010-248-080		CAP,E 220-10 SME
C735	87-018-134-080		CAP,TC U 0.01-16 N Y UP050
C770	87-010-405-080		CAP,E 10-50 M SME
C771	87-010-405-080		CAP,E 10-50 M SME
C772	87-010-194-080		C-CAP,S 0.047-25 Z F
C773	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C774	87-010-263-080		CAP,E 100-10 SME
C775	87-010-405-080		CAP,E 10-50 M SME
C776	87-010-197-080		C-CAP,S 0.01-25 K B<U>
C777	87-010-400-080		CAP,E 0.47-50 M SME
C778	87-010-401-080		CAP,E 1-50 M SME
C779	87-010-401-080		CAP,E 1-50 M SME
C780	87-010-197-080		C-CAP,S 0.01-25 K B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C781	87-010-405-080		CAP,E 10-50 M SME
C782	87-010-405-080		CAP,E 10-50 M SME
C785	87-010-197-080		C-CAP,S 0.01-25 K B
C786	87-010-197-080		C-CAP,S 0.01-25 K B
C787	87-010-184-080		C-CAP,S 3300P-50 K B
C788	87-010-184-080		C-CAP,S 3300P-50 K B
C789	87-010-179-080		C-CAP,S 1200P-50 K B
C790	87-010-179-080		C-CAP,S 1200P-50 K B
C791	87-010-401-080		CAP,E 1-50 M SME
C792	87-010-180-080		C-CAP,S 1500P-50 K B<U>
C792	87-010-183-080		C-CAP,S 2700P-50 K B<EZ,K>
C793	87-010-189-080		C-CAP,S 8200P-50 K B
C794	87-010-408-080		CAP,E 47-50 SME
C795	87-010-194-080		C-CAP,S 0.047-25 Z F
C796	87-010-403-080		CAP,E 3.3-50 M SME
C799	87-010-178-080		C-CAP,S 1000P-50 K B
C802	87-010-197-080		C-CAP,S 0.01-25 K B
C803	87-018-209-089		CAP,TC U 0.1-50 Z F UP050
C814	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C815	87-018-209-089		CAP,TC U 0.1-50 Z F UP050<U>
C817	87-010-197-080		C-CAP,S 0.01-25 K B<EZ>
C818	87-010-197-080		C-CAP,S 0.01-25 K B<EZ>
C819	87-010-197-080		C-CAP,S 0.01-25 K B
C820	87-010-408-080		CAP,E 47-50 SME
C821	87-010-197-080		C-CAP,S 0.01-25 K B
C823	87-010-197-080		C-CAP,S 0.01-25 K B
C828	87-010-197-080		C-CAP,S 0.01-25 K B
C829	87-010-197-080		C-CAP,S 0.01-25 K B
C830	87-015-819-080		C-CAP,0.01-50 K B
C835	87-010-197-080		C-CAP,S 0.01-25 K B
C860	87-010-248-080		CAP,E 220-10 SME<EZ>
C861	87-010-196-080		C-CAP,S 0.1-25 Z F C2012<EZ>
C862	87-010-182-080		C-CAP,S 2200P-50 K B<EZ>
C863	87-010-178-080		C-CAP,S 1000P-50 K B<EZ>
C864	87-010-315-080		C-CAP,S 27P-50 J CH<EZ>
C865	87-010-315-080		C-CAP,S 27P-50 J CH<EZ>
C866	87-010-197-080		C-CAP,S 0.01-25 K B<EZ>
C867	87-012-145-080		C-CAP,S 270P-50 J CH<EZ>
C868	87-010-405-080		CAP,E 10-50 SME<EZ>
C872	87-010-197-080		C-CAP,S 0.01-25 K B<EZ>
C901	87-012-141-080		C-CAP,S 0.22-16 Z F<EZ,K>
C901	87-010-196-080		C-CAP,S 0.1-25 Z F C2012<U>
C902	87-015-785-080		C-CAP, 0.1-25 Z F
C903	87-018-119-080		CAP,TC U 100P-50 K B UP050
C941	87-010-314-080		C-CAP,S 22P-50 J CH<U>
C942	87-010-149-080		C-CAP,S 5P-50 CH<EZ,K>
C943	87-010-197-080		C-CAP,S 0.01-25 K B<U>
C944	87-014-051-080		CAP,PP 560P-100 J<U>
C945	87-010-197-080		C-CAP,S 0.01-25 K B<U>
C946	87-010-401-080		CAP,E 1-50 M SME
C949	87-014-049-080		CAP,PP 470P-100 J<EZ,K>
C950	87-014-073-080		CAP,PP 4700P-100 J<U>
C952	87-010-197-080		C-CAP,S 0.01-25 K B<U>
C953	87-010-197-080		C-CAP,S 0.01-25 K B<U>
C954	87-010-400-080		CAP,E 0.47-50 M SME<U>
C956	87-010-263-080		CAP,E 100-10 SME<U>
C957	87-010-154-080		C-CAP,S 10P-50 D CH<EZ,K>
C958	87-010-197-080		C-CAP,S 0.01-25 K B<EZ,K>
C960	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C961	87-010-152-080		C-CAP,S 8P-50 D CH<U>
C987	87-018-134-080		CAP,TC U 0.01-16 N Y UP050
C990	87-010-197-080		C-CAP,S 0.01-25 K B
C993	87-018-134-080		CAP,TC U 0.01-16 N Y UP050
C995	87-010-197-080		C-CAP,S 0.01-25 K B
C999	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
CF801	87-008-423-010		FLTR,IF SFE10.7MS3G-A<EZ,K>
CF801	87-008-261-010		FLTR,CFSFE10.7MA5<U>
CF802	82-785-747-010		CF,MS2 GHY.R<EZ,K>
CF802	87-008-261-010		FLTR,CFSFE10.7MA5<U>
FFE801	A8-6ZA-195-030		6ZA-1 YFEENM<EZ,K>

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
FFE801	A8-6ZA-190-030		6ZA-1 YFEUNM<U>
F113	87-026-690-089		FUSE,5A 125V 251<U>
F114	87-026-690-089		FUSE,5A 125V 251<U>
FR121	87-029-060-010		RES,FUSE 33-1/4W J
FR122	87-029-060-010		RES,FUSE 33-1/4W J
J252	87-099-678-010		JACK,6.3 BLK ST W/SW
J253	87-099-474-010		JACK,PIN 3P BLK W/SW
J254	87-A60-238-010		TERMINAL,SP 4P (MSC)
J652	87-099-625-010		JACK,PIN 4P BLK W/O SW
J801	87-033-241-010		TERMINAL,ANT 2P AJ-2309<EZ,K>
J801	87-A60-202-010		TERMINAL,ANT 4P MSP-154V-02<U>
L101	87-003-383-010		COIL,1UH K<EZ,K>
L102	87-003-383-010		COIL,1UH K<EZ,K>
L403	87-A50-049-010		COIL,TRAP 85K(COI)
L404	87-A50-049-010		COIL,TRAP 85K(COI)
L451	87-007-342-010		COIL,OSC 85KHZ BIAS
L701	87-A50-027-010		COIL,1 POLE MPX(TOK)
L702	87-A50-027-010		COIL,1 POLE MPX(TOK)
L741	87-A50-015-010		COIL,FM DET (TOK)
L742	87-A90-051-010		FLTR, CFAZ-450 (TOK)
L743	87-005-564-080		C-COIL,2125 2.2UH K MLF2012
L770	87-003-102-080		COIL,10UH K LAL02
L832	87-005-847-080		COIL,2.2UH K CECS
L850	87-005-847-080		COIL,2.2mH K CECS<EZ>
L941	87-A50-020-010		COIL,ANT LW (COI) 252kHZ<EZ,K>
L941	87-A50-022-010		COIL,ANT SW (COI) 7.96MHZ<U>
L942	87-A50-019-010		COIL,OSC LW (COI) 856kHZ<EZ,K>
L942	87-A50-021-010		COIL,OSC SW (COI) 15MHZ<U>
L943	87-005-372-080		COIL,1MH K LAL03<U>
L944	87-003-131-080		COIL,10MH J EL0607<U>
L981	86-NF4-665-010		COIL,AM PACK 1(TOK)
⚠ PR113	87-026-681-080		PROTECTOR,5A 491SERIES 60V<EZ,K>
⚠ PR114	87-026-681-080		PROTECTOR,5A 491SERIES 60V<EZ,K>
⚠ PR150	87-A90-091-089		PROTECTOR,2A 491SERI<EZ,K>
⚠ PR150	87-A90-069-089		PROTECTOR,2A 251<U>
RY101	87-045-389-010		RELAY,12V OSA-SS-212DM5
RY102	87-045-382-010		RELAY,12V OUAZ-SH-112L
SFR301	87-024-355-080		SFR,33K H EVN DJAA03
SFR302	87-024-355-080		SFR,33K H EVN DJAA03
SFR303	87-024-355-080		SFR,33K H EVN DJAA03
SFR304	87-024-355-080		SFR,33K H EVN DJAA03
SFR305	87-024-356-080		SFR,47K H EVN DJAA03
SFR306	87-024-356-080		SFR,47K H EVN DJAA03
SFR451	87-024-356-080		SFR,47K H EVN DJAA03
SFR452	87-024-356-080		SFR,47K H EVN DJAA03
SFR722	87-024-352-080		SFR,4.7K H EVN DJAA03
TC701	87-011-253-080		TRIMMER,CER 30P 4.0X4.5 ECRLA
TC941	87-011-220-080		TRIMMER,CER 20P 6.15X5.9 VCT51<U>
TC942	87-011-221-080		TRIMMER,CER 30P 6.15X5.9 VCT51
TH241	87-A90-157-080		C-THMS,4.7K<U>
VR651	87-A90-153-010		VR,RTRY 50KBX2 V
W101	86-NF9-651-010		F-CABLE,7P 2.5 (NF9)
X703	84-508-618-010		VIB,CER CSB 456 F15
X721	86-NFZ-651-010		VIB,XTAL 4.500MHZ CSA-309
X722	87-030-354-010		VIB,CER 450.0KHZ BFU C<U>
X850	89-KT1-608-010		X,TAL 4.332MHz<EZ>

FRONT C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C201	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C202	87-012-156-080		C-CAP,S 220P-50 J CH GRM
C203	87-010-263-040		CAP,E 100-10 M SME
C204	87-010-494-040		CAP,E 1-50 5L SRE
C205	87-010-494-040		CAP,E 1-50 5L SRE
C206	87-010-550-040		CAP,E 100-6.3 5L SRE
C207	87-010-550-040		CAP,E 100-6.3 5L SRE
C208	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C209	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C210	87-010-314-080		C-CAP,S 22P-50 J CH

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C211	87-010-154-080		C-CAP,S 10P-50 D CH
C212	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C213	87-010-178-080		C-CAP,S 1000P-50 K B
C214	87-010-112-040		CAP,E 100-16 SME
C215	87-010-322-080		C-CAP,S 100P-50 J CH
C216	87-010-560-040		CAP,E 10-50 M 5L MA
C351	87-010-497-040		CAP,E 4.7-35 5L SRE
C352	87-010-497-040		CAP,E 4.7-35 5L SRE
C353	87-010-981-040		CAP,E 22-35 M 5L SRE
C363	87-012-156-089		C-CAP,S 220P-50 J CH GRM
C364	87-012-156-089		C-CAP,S 220P-50 J CH GRM
C381	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C382	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C383	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C384	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C385	87-010-322-080		C-CAP,S 100P-50 J CH
C386	87-010-400-040		CAP,E 0.47-50 SME
C387	87-015-694-049		CAP,E 0.47-50 SME(7L)
C389	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C401	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C402	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C601	87-010-405-040		CAP,E 10-50 M SME
C602	87-010-176-080		C-CAP,S 680P-50 J SL
C603	87-010-186-080		C-CAP,S 4700P-50 K B
C604	87-010-322-080		C-CAP,S 100P-50 J CH
C605	87-010-321-080		C-CAP,S 82P-50 J CH
C606	87-010-401-040		CAP,E 1-50 M SME
C607	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C608	87-010-322-080		C-CAP,S 100P-50 J CH
C609	87-010-491-040		CAP,E 0.22-50 5L SRE
C610	87-010-177-080		C-CAP,S 820P-50 J SL
C611	87-010-406-040		CAP,E 22-50 M SME
C612	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C614	87-A10-189-040		CAP,E 220-10 M
C615	87-010-498-040		CAP,E 10-16 M 5L SRE
C619	87-012-141-080		C-CAP,S 0.22-16 Z F
C620	87-010-197-080		C-CAP,S 0.01-25 K B
C622	87-010-194-080		C-CAP,S 0.047-25 Z F
C650	87-010-319-080		C-CAP,S 56P-50 J CH
C651	87-010-319-080		C-CAP,S 56P-50 J CH
C652	87-010-404-040		CAP,E 4.7-50 SME
C654	87-010-178-080		C-CAP,S 1000P-50 K B
C655	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C656	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C657	87-010-263-040		CAP,E 100-10 M SME
C658	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C659	87-010-184-080		C-CAP,S 3300P-50 K B
C660	87-010-426-080		C-CAP,S 0.012-25 K B
C663	87-010-263-040		CAP,E 100-10 M SME
C664	87-012-141-080		C-CAP,S 0.22-16 Z F
C667	87-018-130-080		CAP,TC U 820P-50 K B UP050
C668	87-010-180-080		C-CAP,S 1500P-50 K B
C669	87-010-404-040		CAP,E 4.7-50 SME
C670	87-010-404-040		CAP,E 4.7-50 SME
C671	87-010-188-080		C-CAP,S 6800P-50 K B
C672	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C701	87-010-421-040		CAP,E 4.7-50 M 5L SRE
C702	87-010-112-040		CAP,E 100-16 SME
C705	87-010-493-040		CAP,E 0.47-50 M 5L SRE
C706	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C707	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C708	87-010-400-040		CAP,E 0.47-50 SME
C709	87-010-198-080		C-CAP,S 0.022-25 K B
C710	87-010-400-040		CAP,E 0.47-50 SME
C711	87-010-197-080		C-CAP,S 0.01-25 K B
C712	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C713	87-010-185-080		C-CAP,S 3900P-50 K B
C714	87-010-596-080		C-CAP,S 0.047-16 K R
C715	87-010-181-080		C-CAP,S 1800P-50 K B
C716	87-010-198-080		C-CAP,S 0.022-25 K B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C717	87-010-176-080		C-CAP,S 680P-50 J SL
C718	87-010-188-080		C-CAP,S 6800P-50 K B
C719	87-012-145-080		C-CAP,S 270P-50 J CH
C720	87-010-183-080		C-CAP,S 2700P-50 K B
C721	87-010-402-040		CAP,E 2.2-50 SME
C722	87-010-495-040		CAP,E 2.2-50 5L SRE
C723	87-010-378-040		CAP,E 10-16 M SME
C724	87-010-198-080		C-CAP,S 0.022-25 K B
C725	87-010-493-040		CAP,E 0.47-50 M 5L SRE
C726	87-010-197-080		C-CAP,S 0.01-25 K B
C727	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C728	87-010-185-080		C-CAP,S 3900P-50 K B
C729	87-010-596-080		C-CAP,S 0.047-16 K R
C730	87-010-181-080		C-CAP,S 1800P-50 K B
C731	87-010-198-080		C-CAP,S 0.022-25 K B
C732	87-010-176-080		C-CAP,S 680P-50 J SL
C733	87-010-188-080		C-CAP,S 6800P-50 K B
C734	87-012-145-080		C-CAP,S 270P-50 J CH
C735	87-010-183-080		C-CAP,S 2700P-50 K B
C751	87-010-322-080		C-CAP,S 100P-50 J CH
C752	87-010-322-080		C-CAP,S 100P-50 J CH
C753	87-010-493-049		CAP,E 0.47-50 M SL SRE
C754	87-010-493-049		CAP,E 0.47-50 M SL SRE
C801	87-010-197-080		C-CAP,S 0.01-25 K B
C802	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C803	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C804	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C805	87-010-805-080		C-CAP,S 1-16 Z F
C806	87-010-805-080		C-CAP,S 1-16 Z F
C807	87-010-561-040		CAP,E 100-16 M 5L SRE
C808	87-A10-189-040		CAP,E 220-10 M
C809	87-010-491-040		CAP,E 0.22-50 5L SRE
C810	87-010-491-040		CAP,E 0.22-50 5L SRE
C811	87-010-495-040		CAP,E 2.2-50 5L SRE
C813	87-010-560-040		CAP,E 10-50 M 5L MA
C814	87-010-405-040		CAP,E 10-50 M SME
C815	87-010-322-080		C-CAP,S 100P-50 J CH
C816	87-010-322-080		C-CAP,S 100P-50 J CH
C817	87-012-142-080		C-CAP,S 0.33-16 Z F
FB601	87-008-372-080		FLTR,EMIBL01 RN1
FFC102	87-A80-054-010		FF-CABLE,4P 1.25 70MM
FFC104	87-A80-052-010		FF-CABLE,14P 1.25 280MM
FFC106	88-921-081-110		FF-CABLE,21P 1.25
FFC301	87-A80-053-010		FF-CABLE,8P 1.25 300MM
FFC501	88-915-161-110		FF-CABLE,15P 1.25
FL301	86-NF9-653-010		FL,BJ539GK
FL302	86-NF9-616-010		FL,BJ504GK
J601	87-A60-284-010		JACK,3.5MO (MSC)
J621	87-A60-284-010		JACK,3.5MO (MSC)
L201	87-A50-158-010		COIL,CLOCK 4.19MHZ (NF9)
L650	87-005-481-080		COIL,47UH J SP02
LED401	87-070-281-080		LED,SLZ-736A-25H-S-T1 P-GRN
LED402	87-070-281-080		LED,SLZ-736A-25H-S-T1 P-GRN
LED403	87-070-281-080		LED,SLZ-736A-25H-S-T1 P-GRN
LED404	87-070-281-080		LED,SLZ-736A-25H-S-T1 P-GRN
LED405	87-070-281-080		LED,SLZ-736A-25H-S-T1 P-GRN
LED406	87-070-281-080		LED,SLZ-736A-25H-S-T1 P-GRN
LED407	87-017-979-010		LED,SEL2413E GRN
LED408	87-017-979-010		LED,SEL2413E GRN
LED409	87-017-979-010		LED,SEL2413E GRN
LED410	87-017-979-010		LED,SEL2413E GRN
LED411	87-017-979-010		LED,SEL2413E GRN
LED412	87-017-979-010		LED,SEL2413E GRN
LED413	87-017-979-010		LED,SEL2413E GRN
LED414	87-017-979-010		LED,SEL2413E GRN
LED420	87-A40-259-080		LED,SLR-342VCT31 RED
LED421	87-A40-259-080		LED,SLR-342VCT31 RED
LED422	87-A40-259-080		LED,SLR-342VCT31 RED
LED423	87-A40-259-080		LED,SLR-342VCT31 RED
LED425	87-070-278-010		LED,SLZ-738A-24S PGRN

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
LED426	87-070-278-010		LED,SLZ-738A-24S PGRN
LED427	87-070-290-010		LED,SLZ-936C-30-S RED
LED428	87-070-290-010		LED,SLZ-936C-30-S RED
LED429	87-070-278-010		LED,SLZ-738A-24S PGRN
LED430	87-070-278-010		LED,SLZ-738A-24S PGRN
⚠ PR101	87-026-689-089		PROTECTOR 1A 491SERI<EZ,K>
S301	87-A90-095-080		SW,TACT EVQ11G04M
S302	87-A90-095-080		SW,TACT EVQ11G04M
S303	87-A90-095-080		SW,TACT EVQ11G04M
S304	87-A90-095-080		SW,TACT EVQ11G04M
S305	87-A90-095-080		SW,TACT EVQ11G04M
S306	87-A90-095-080		SW,TACT EVQ11G04M
S307	87-A90-095-080		SW,TACT EVQ11G04M
S308	87-A90-095-080		SW,TACT EVQ11G04M
S309	87-A90-095-080		SW,TACT EVQ11G04M
S310	87-A90-095-080		SW,TACT EVQ11G04M
S311	87-A90-095-080		SW,TACT EVQ11G04M
S312	87-A90-095-080		SW,TACT EVQ11G04M
S313	87-A90-095-080		SW,TACT EVQ11G04M
S314	87-A90-095-080		SW,TACT EVQ11G04M
S315	87-A90-095-080		SW,TACT EVQ11G04M
S316	87-A90-095-080		SW,TACT EVQ11G04M
S317	87-A90-095-080		SW,TACT EVQ11G04M
S318	87-A90-095-080		SW,TACT EVQ11G04M
S319	87-A90-095-080		SW,TACT EVQ11G04M
S320	87-A90-095-080		SW,TACT EVQ11G04M
S321	87-A90-095-080		SW,TACT EVQ11G04M
S322	87-A90-095-080		SW,TACT EVQ11G04M<EZ>
S323	87-A90-095-080		SW,TACT EVQ11G04M<EZ>
S324	87-A90-095-080		SW,TACT EVQ11G04M<EZ>
S326	87-A90-095-080		SW,TACT EVQ11G04M
S327	87-A90-095-080		SW,TACT EVQ11G04M
S328	87-A90-095-080		SW,TACT EVQ11G04M
S329	87-A90-095-080		SW,TACT EVQ11G04M
S330	87-A90-095-080		SW,TACT EVQ11G04M
S331	87-A90-095-080		SW,TACT EVQ11G04M
S332	87-A90-095-080		SW,TACT EVQ11G04M
S333	87-A90-095-080		SW,TACT EVQ11G04M
S334	87-A90-095-080		SW,TACT EVQ11G04M
S335	87-A90-095-080		SW,TACT EVQ11G04M
S336	87-A90-095-080		SW,TACT EVQ11G04M
S338	87-A90-095-080		SW,TACT EVQ11G04M
S339	87-A90-095-080		SW,TACT EVQ11G04M
SW251	87-A90-392-010		SW,RTRY EC16B24304-20 NON
VR601	86-NFA-607-010		VR,RTRY 10K15AX1 1 V XV0121PVN

CD SW C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
LED451	87-017-979-010		LED,SEL2413E GRN
LED452	87-017-979-010		LED,SEL2413E GRN
LED453	87-017-979-010		LED,SEL2413E GRN
LED454	87-017-979-010		LED,SEL2413E GRN
LED455	87-017-979-010		LED,SEL2413E GRN
LED456	87-017-979-010		LED,SEL2413E GRN
LED457	87-017-979-010		LED,SEL2413E GRN
LED458	87-017-979-010		LED,SEL2413E GRN
LED459	87-017-979-010		LED,SEL2413E GRN
LED460	87-017-979-010		LED,SEL2413E GRN
S451	87-A90-095-080		SW,TACT EVQ11G04M
S452	87-A90-095-080		SW,TACT EVQ11G04M
S453	87-A90-095-080		SW,TACT EVQ11G04M
S454	87-A90-095-080		SW,TACT EVQ11G04M
S455	87-A90-095-080		SW,TACT EVQ11G04M
S456	87-A90-095-080		SW,TACT EVQ11G04M
S457	87-A90-095-080		SW,TACT EVQ11G04M

VR C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
SW252	87-A90-340-010		SW,RTRY EC16B24204-15

AC2 C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C103	87-010-196-080		C-CAP,S 0.1-25 F<EZ,K>
F101	87-026-691-080		FUSE,10A 125V 251<U>
F102	87-026-691-080		FUSE,10A 125V 251<U>
⚠ PR101	87-026-682-080		PROTECTOR,10A 491SERIES 60V<EZ,K>
⚠ PR102	87-026-682-080		PROTECTOR,10A 491SERIES 60V<EZ,K>

PT C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
⚠	82-304-743-010		TERMINAL,1P
⚠ F109	87-035-368-010		FUSE,4A,250V T<EZ,K>
⚠ F109	87-035-493-010		FUSE,8A,125V T 237<U>
⚠ FC101	87-033-213-080		FUSE CLAMP,PFI5000
⚠ FC102	87-033-213-080		FUSE CLAMP,PFI5000
⚠ PT001	86-NF9-632-010		PT,6NF-9E<EZ,K>
⚠ PT001	86-NF9-633-010		PT,6NF-9U<U>

CD MAIN C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
	86-ZG1-605-019		CABLE,FFC 16P
	86-ZG1-608-019		CABLE,FFC 8P
C11	87-010-182-089		C-CAP,S 2200P-50 B
C12	87-016-081-089		C-CAP,S 0.1-16 RK
C13	87-016-081-089		C-CAP,S 0.1-16 RK
C14	87-016-081-089		C-CAP,S 0.1-16 RK
C15	87-010-404-049		CAP,E 4.7-50 SME
C16	87-016-081-089		C-CAP,S 0.1-16 RK
C17	87-010-197-089		C-CAP,S 0.01-25 B
C18	87-010-402-049		CAP,E 2.2-50 SME
C19	87-010-382-049		CAP,E 22-25 SME
C20	87-010-213-089		C-CAP,S 0.015-25 B
C21	87-010-197-089		C-CAP,S 0.01-25 B
C22	87-010-263-049		CAP,E 100-10 SME
C23	87-010-197-089		C-CAP,S 0.01-25 B
C24	87-016-369-089		C-CAP,S 0.033-25 B K
C25	87-010-197-089		C-CAP,S 0.01-25 B
C26	87-016-369-089		C-CAP,S 0.033-25 B K
C27	87-010-197-089		C-CAP,S 0.01-25 B
C28	87-010-146-029		C-CAP,S 2P-50 C CH GRM
C29	87-010-154-089		C-CAP,S 10P-50 D CH
C30	87-010-263-049		CAP,E 100-10 SME
C31	87-010-178-089		C-CAP,S 1000P-50 B
C32	87-010-198-089		C-CAP,S 0.022-25 B
C33	87-016-081-089		C-CAP,S 0.1-16 RK
C34	87-010-197-089		C-CAP,S 0.01-25 B
C35	87-010-263-049		CAP,E 100-10 SME
C36	87-015-677-049		CAP,E 100-6.3 7L
C37	87-010-197-089		C-CAP,S 0.01-25 B
C38	87-010-260-089		CAP,E 47-25 SME
C39	87-010-196-089		C-CAP,S 0.1-25 F
C91	87-010-263-049		CAP,E 100-10 SME
C101	87-010-596-089		C-CAP,S 0.047-16 RK
C102	87-010-188-089		C-CAP,S 6800P-50 B
C103	87-018-133-089		CAP,TC-U 4700P-16 NX
C104	87-012-156-089		C-CAP,S 220P-50 CH
C105	87-010-404-049		CAP,E 4.7-50 SME
C106	87-010-263-049		CAP,E 100-10 SME
C107	87-010-197-089		C-CAP,S 0.01-25 B
C108	87-016-526-089		C-CAP,S 0.47-16 BK
C109	87-010-197-089		C-CAP,S 0.01-25 B
C112	87-010-318-089		C-CAP,S 47P-50 CH
C113	87-010-263-089		CAP,E 100-10 SME 5X11
C114	87-010-197-089		C-CAP,S 0.01-25 B
C115	87-010-318-089		C-CAP,S 47P-50 CH
C116	87-010-318-089		C-CAP,S 47P-50 CH
C117	87-010-197-089		C-CAP,S 0.01-25 B
C122	87-010-186-089		C-CAP,S 4700P-50 B
C123	87-010-382-049		CAP,E 22-25 SME
C201	87-010-318-089		C-CAP,S 47P-50 CH

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C202	87-010-318-089		C-CAP,S 47P-50 CH
C203	87-010-321-089		C-CAP,S 82P-50 CH
C204	87-010-321-089		C-CAP,S 82P-50 CH
C205	87-010-321-089		C-CAP,S 82P-50 CH
C206	87-010-321-089		C-CAP,S 82P-50 CH
C207	87-012-153-089		C-CAP,S 120P-50 CH
C208	87-012-153-089		C-CAP,S 120P-50 CH
C209	87-012-153-089		C-CAP,S 120P-50 CH
C210	87-012-153-089		C-CAP,S 120P-50 CH
C211	87-010-403-049		CAP,E 3.3-50 SME
C212	87-010-403-089		CAP,E 3.3-50 SME
C213	87-010-186-089		C-CAP,S 4700P-50 B
C214	87-010-186-089		C-CAP,S 4700P-50 B
C231	87-016-251-049		CAP,E 220-16 SMG
C232	87-010-263-089		CAP,E 100-10 SME 5X11
C301	87-010-196-089		C-CAP,S 0.1-25 F
C302	87-010-260-089		CAP,E 47-25 SME
C401	87-010-403-089		CAP,E 3.3-50 SME
C402	87-010-403-049		CAP,E 3.3-50 SME
C501	87-016-459-049		CAP,E 470-10 SMG
C502	87-010-197-089		C-CAP,S 0.01-25 B
C503	87-010-263-049		CAP,E 100-10 SME
C504	87-010-196-089		C-CAP,S 0.1-25 F
C505	87-010-196-089		C-CAP,S 0.1-25 F
C506	87-010-196-089		C-CAP,S 0.1-25 F
C507	87-010-196-089		C-CAP,S 0.1-25 F
C508	87-016-459-049		CAP,E 470-10 SMG
C509	87-010-196-089		C-CAP,S 0.1-25 F
C510	87-010-196-089		C-CAP,S 0.1-25 F
C601	87-010-196-089		C-CAP,S 0.1-25 F
C602	87-016-251-049		CAP,E 220-16 SMG
C603	87-010-196-089		C-CAP,S 0.1-25 F
C701	87-010-322-089		C-CAP,S 100P-50 CH
C702	87-010-318-089		C-CAP,S 47P-50 CH
C703	87-010-318-089		C-CAP,S 47P-50 CH
C705	87-010-178-089		C-CAP,S 1000P-50 B
C706	87-010-178-089		C-CAP,S 1000P-50 B
C901	87-010-260-049		CAP,E 47-25 SME
C902	87-010-196-089		C-CAP,S 0.1-25 F
L11	87-003-102-089		COIL,10UH K LAL02
LED901	87-A40-123-019		LED,SLZ-8128A-01-B
M601	87-045-305-019		MOTOR,RF-500TB
R36	87-022-365-089		C-RES,S 100K-1/10W F
R37	87-022-363-089		C-RES,S 68K-1/10W F
R38	87-022-363-089		C-RES,S 68K-1/10W F
R39	87-022-363-089		C-RES,S 68K-1/10W F
R40	87-022-363-089		C-RES,S 68K-1/10W F
R41	87-022-365-089		C-RES,S 100K-1/10W F
SFR11	87-024-175-089		SFR,47K DIA6V
SFR12	87-024-173-089		SFR,22K HRH0638C
SFR13	87-024-176-089		SFR,100K DIA6V
SW601	87-036-109-019		SW,PUSH SPPB 61
SW602	87-036-109-019		SW,PUSH SPPB 61
SW603	87-036-109-019		SW,PUSH SPPB 61
W604	88-906-261-110		FF-CABLE 6P 1.25 260MM
X101	87-030-402-089		VIB,XTAL 16.9344MHZ

LED C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
LED701	87-017-733-080		LED,SEL1250SM
LED702	87-017-350-080		LED,SEL1550CM
LED703	87-017-733-080		LED,SEL1250SM

T-T C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C411	87-018-214-089		CAP,TC U 0.1-50
LED411	87-070-288-019		LED,GL380
M401	87-A90-036-019		MOT ASSY,RF-300CA-11
PS401	87-A90-156-019		SNSR,SG-240
Q411	87-A30-031-019		P-TR,PT380F

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
SW401	87-036-109-019		SW,PUSH SPPB61

CD MOTOR C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
SW1	87-036-340-019		SW,LEAF LSA-1121
M20	87-045-358-019		MOT,RF-310TA 43
M21	87-045-356-019		MOT,RF-310TA 30

DECK C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
W001	82-ZM1-625-019		RBN,CORD,4P-55
SFR1	87-024-581-089		SFR,3.3K DIA 6H
SOL1	82-ZM1-618-010		SOL ASSY, 27
SOL2	82-ZM1-618-010		SOL ASSY, 27
SW1	87-036-378-010		SW, PUSH 1-1-1 SH2
SW2	87-036-378-010		SW, PUSH 1-1-1 SH2
SW3	87-036-378-010		SW, PUSH 1-1-1 SH2
SW4	87-036-378-010		SW, PUSH 1-1-1 SH2
SW5	87-036-378-010		SW, PUSH 1-1-1 SH2
SW6	87-036-378-019		SW, PUSH 1-1-1 SH2
SW8	87-036-378-019		SW, PUSH 1-1-1 SH2
SW9	87-036-378-019		SW, PUSH 1-1-1 SH2
CON502	87-099-756-019		CONN, 15P 9604 S F

HEAD-1 C.B

HEAD-2 C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
CON351	86-NF5-618-110		CONN ASSY,8P RPB

PRO C.B

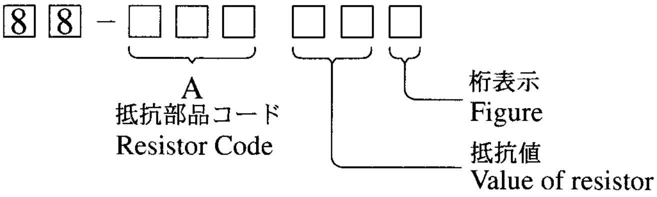
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C151	87-016-083-089		C-CAP,S 0.15-16 K R

RELAY C.B

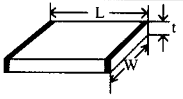
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
L101	87-003-383-019		COIL,1UH K<U>
L102	87-003-383-019		COIL,1UH K<U>
RY103	87-A90-143-019		RELAY,DG12D2-OS(M)<U>

Oチップ抵抗部品コード／CHIP RESISTOR PART CODE

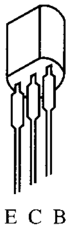
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding


8 8 - □□□ □□□
A
抵抗部品コード
Resistor Code
桁表示
Figure
抵抗値
Value of resistor

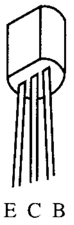
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード : A Resistor Code : A
				外形／Form	L	W	t	
1/16W	1608	±5%	CJ		1.6	0.8	0.45	108
1/10W	2125	±5%	CJ		2	1.25	0.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.55	128

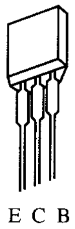
TRANSISTOR ILLUSTRATION



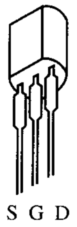
2SA1296GR
2SC3266GR
2SD2172V/W
KTA1266GR
KTC3198GR



2SA952K
2SD655E
CSD655E
2SA970GR
2SA1015GR
2SC2001K



DTA114YS
DTA114ES
2SA933S
2SA1175
2SC2785



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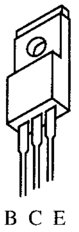

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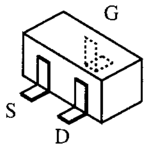

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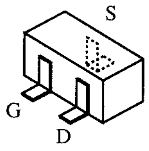

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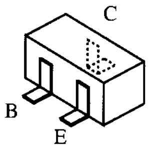
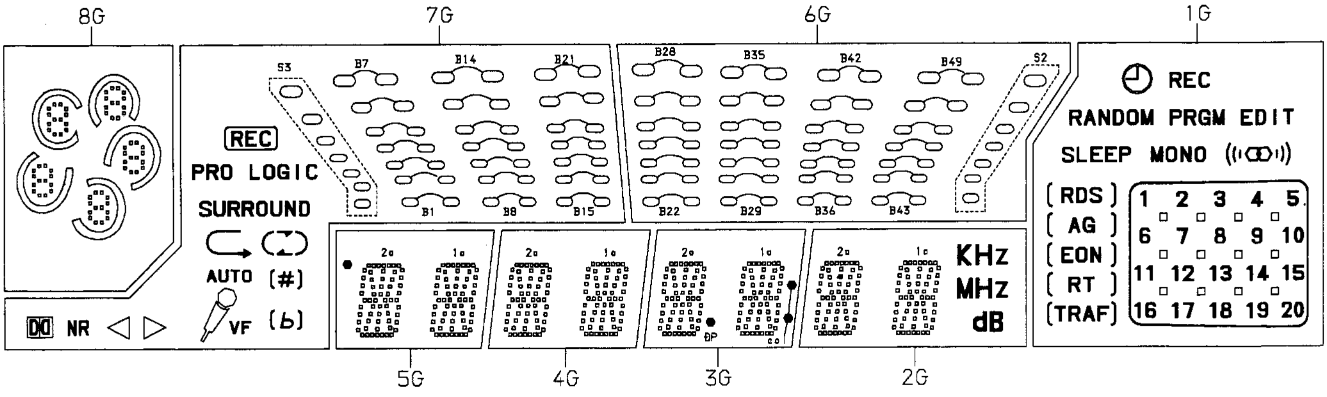


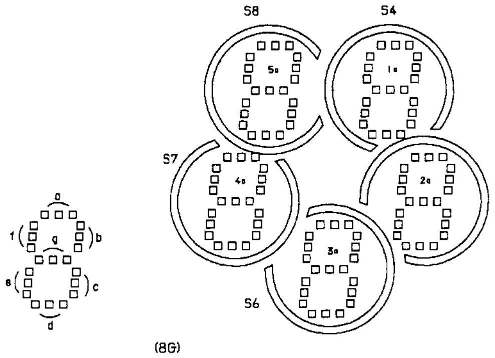
2SA1037
2SA1162
2SC2412
2SC2712
2SC2714
2SC3326
2SC3722
2SD2114
DTA114EK
DTA114TK

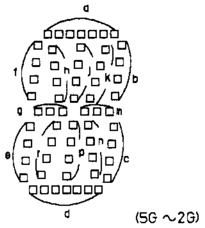
DTA124EK
DTA143EK
DTA144TK
DTC114TK
DTC114YK
DTC123JK
DTC143TK
DTC144WK
UN2213
UN2214

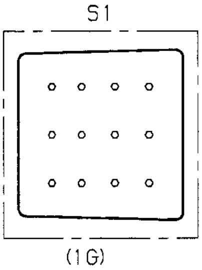
FL GRID ASSIGNMENT & ANODE CONNECTION

FL, BJ539GK
GRID ASSIGNMENT


8G
7G
6G
1G
S3
B7
B14
B21
B28
B35
B42
B49
S2
REC
PRO LOGIC
SURROUND
AUTO
(#)
VF
(♭)
NR
B1
B8
B15
B22
B29
B36
B43
REC
RANDOM PRGM EDIT
SLEEP MONO
RDS
AG
EON
RT
TRAF
1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
16 17 18 19 20
2a
1a
KHz
MHz
dB
DP
5G
4G
3G
2G


S8
S4
S7
S5
S6
5a
1a
4a
2a
3a
a
f
b
g
e
c
d
(8G)


a
f
h
j
k
b
g
n
e
p
r
c
d
(5G ~2G)

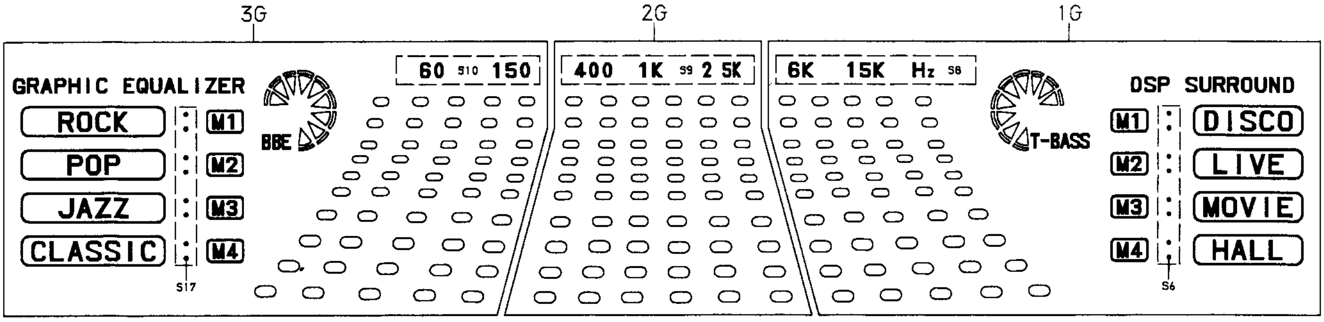


ANODE CONNECTION

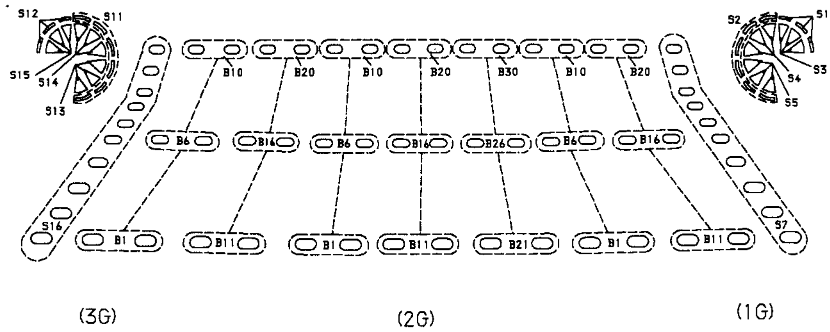
	8G	7G	6G	5G	4G	3G	2G	1G
P1	5a	—	—	—	—	—	—	**REC**
P2	5b	DD	—	—	—	—	—	◷
P3	5f	**NR**	—	—	—	—	—	**EDIT**
P4	5g	◁	—	—	—	—	—	**AI**
P5	5c	▷	—	—	—	—	—	**PRGM**
P6	5e	🎤VF	—	—	—	—	—	**MONO**
P7	5d	**REC**	—	—	—	—	—	**RANDOM**
P8	S8	S3	S2	—	—	—	—	**SLEEP**
P9	S6	)	—	○	—	—	—	((ı◎ı))
P10	3d	⇄	—	2a	2a	2a	2a	**RDS**
P11	3e	(	—	2h	2h	2h	2h	( ) (RDS)
P12	3c	↪	—	2j	2j	2j	2j	**AG**
P13	3g	((#))	B22	2k	2k	2k	2k	( ) (AG)
P14	3f	B1	B29	2f	2f	2f	2f	**EON**
P15	3b	B8	B36	2b	2b	2b	2b	( ) (EON)
P16	3a	B15	B43	2m	2m	2m	2m	**RT**
P17	S5	♯	B23	2g	2g	2g	2g	( ) (RT)
P18	2d	B2	B30	2c	2c	2c	2c	**TRAF**
P19	2e	B9	B37	2e	2e	2e	2e	( ) (TRAF)
P20	2c	B16	B44	2r	2r	2r	2r	**1**

	8G	7G	6G	5G	4G	3G	2G	1G
P21	2g	**AUTO**	B24	2p	2p	2p	2p	**2**
P22	2f	B3	B31	2n	2n	2n	2n	**3**
P23	2b	B10	B38	2d	2d	2d	2d	**4**
P24	2a	B17	B45	—	—	col (UP)	**KHz**	**5**
P25	S7	**SURROUND**	B25	—	—	col (DOWN)	**MHz**	**6**
P26	4d	B4	B32	—	—	DP	**dB**	**7**
P27	4e	B11	B39	1a	1a	1a	1a	**8**
P28	4c	B18	B46	1h	1h	1h	1h	**9**
P29	4g	**PRO LOGIC**	B26	1j	1j	1j	1j	**10**
P30	4f	B5	B33	1k	1k	1k	1k	**11**
P31	4b	B12	B40	1f	1f	1f	1f	**12**
P32	4a	B19	B47	1b	1b	1b	1b	**13**
P33	S4	((♭))	B27	1m	1m	1m	1m	**14**
P34	1d	B6	B34	1g	1g	1g	1g	**15**
P35	1e	B13	B41	1c	1c	1c	1c	**16**
P36	1c	B20	B48	1e	1e	1e	1e	**17**
P37	1g	♭	B28	1r	1r	1r	1r	**18**
P38	1f	B7	B35	1p	1p	1p	1p	**19**
P39	1b	B14	B42	1n	1n	1n	1n	**20**
P40	1a	B21	B49	1d	1d	1d	1d	S1

FL, BJ504GK
GRID ASSIGNMENT


3G
2G
1G
GRAPHIC EQUALIZER
ROCK
POP
JAZZ
CLASSIC
M1
M2
M3
M4
S17
BBE
60 S10 150
400 1K S9 2.5K
6K 15K Hz S8
T-BASS
DSP SURROUND
M1
M2
M3
M4
DISCO
LIVE
MOVIE
HALL
S6

SEGMENT DESIGNATION

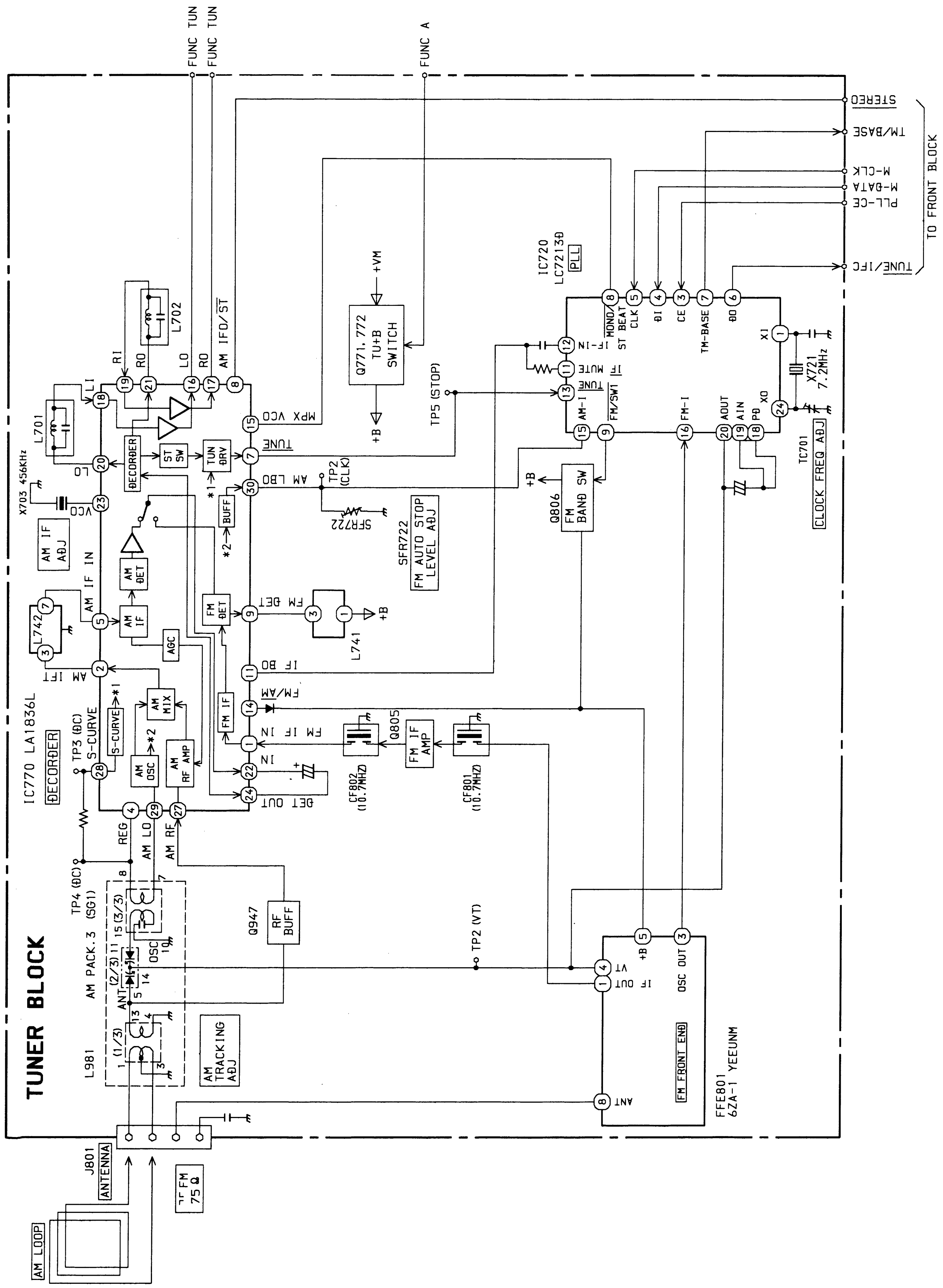

S12
S11
S15
S14
S13
B10
B20
B10
B20
B30
B10
B20
S2
S1
S3
S4
S5
B6
B16
B6
B16
B26
B6
B16
S16
S7
B1
B11
B1
B11
B21
B1
B11
(3G)
(2G)
(1G)

ANODE CONNECTION

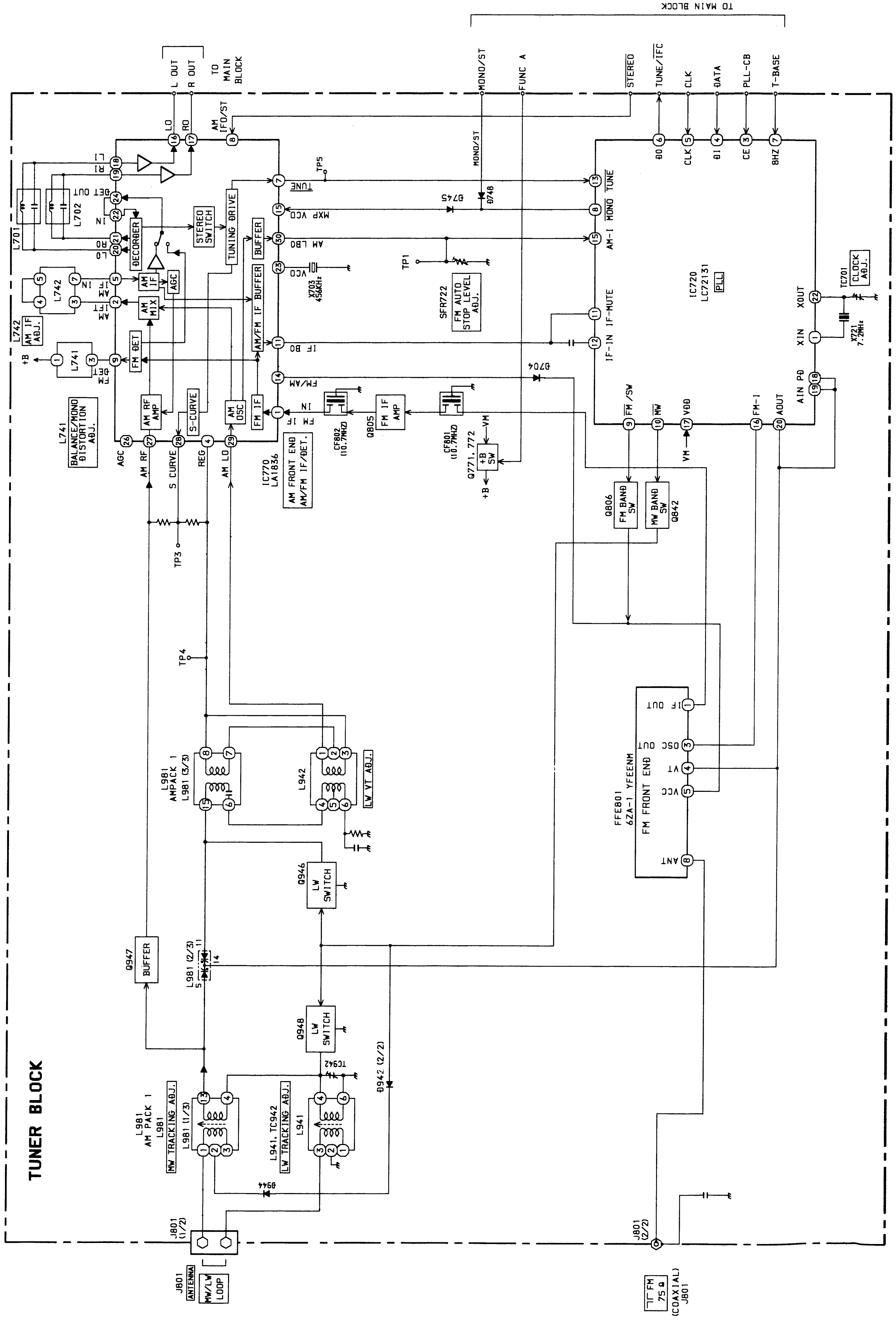
	3G	2G	1G
P1	**GRAPHIC EQUALIZER**	—	**DSP SURROUND**
P2	**ROCK** **POP** **JAZZ** **CLASSIC**	—	**DISCO** **LIVE** **MOVIE** **HALL**
P3	**(ROCK)**	—	**(DISCO)**
P4	**(POP)**	—	**(LIVE)**
P5	**(JAZZ)**	—	**(MOVIE)**
P6	**(CLASSIC)**	—	**(HALL)**
P7	S10	S9	S8
P8	**M1 M3** **M2 M4**	—	**M1 M3** **M2 M4**
P9	☐ (M1)	—	☐ (M1)
P10	☐ (M2)	—	☐ (M2)
P11	☐ (M3)	B30	☐ (M3)
P12	☐ (M4)	B29	☐ (M4)
P13	S11	B28	S1
P14	S12	B27	S2
P15	S13	B26	S3
P16	S14	B25	S4
P17	S15	B24	S5
P18	**BBE**	B23	**T-BASS**
P19	S16	B22	S7
P20	S17	B21	S8

	3G	2G	1G
P21	B20	B20	B20
P22	B19	B19	B19
P23	B18	B18	B18
P24	B17	B17	B17
P25	B16	B16	B16
P26	B15	B15	B15
P27	B14	B14	B14
P28	B13	B13	B13
P29	B12	B12	B12
P30	B11	B11	B11
P31	B10	B10	B10
P32	B9	B9	B9
P33	B8	B8	B8
P34	B7	B7	B7
P35	B6	B6	B6
P36	B5	B5	B5
P37	B4	B4	B4
P38	B3	B3	B3
P39	B2	B2	B2
P40	B1	B1	B1

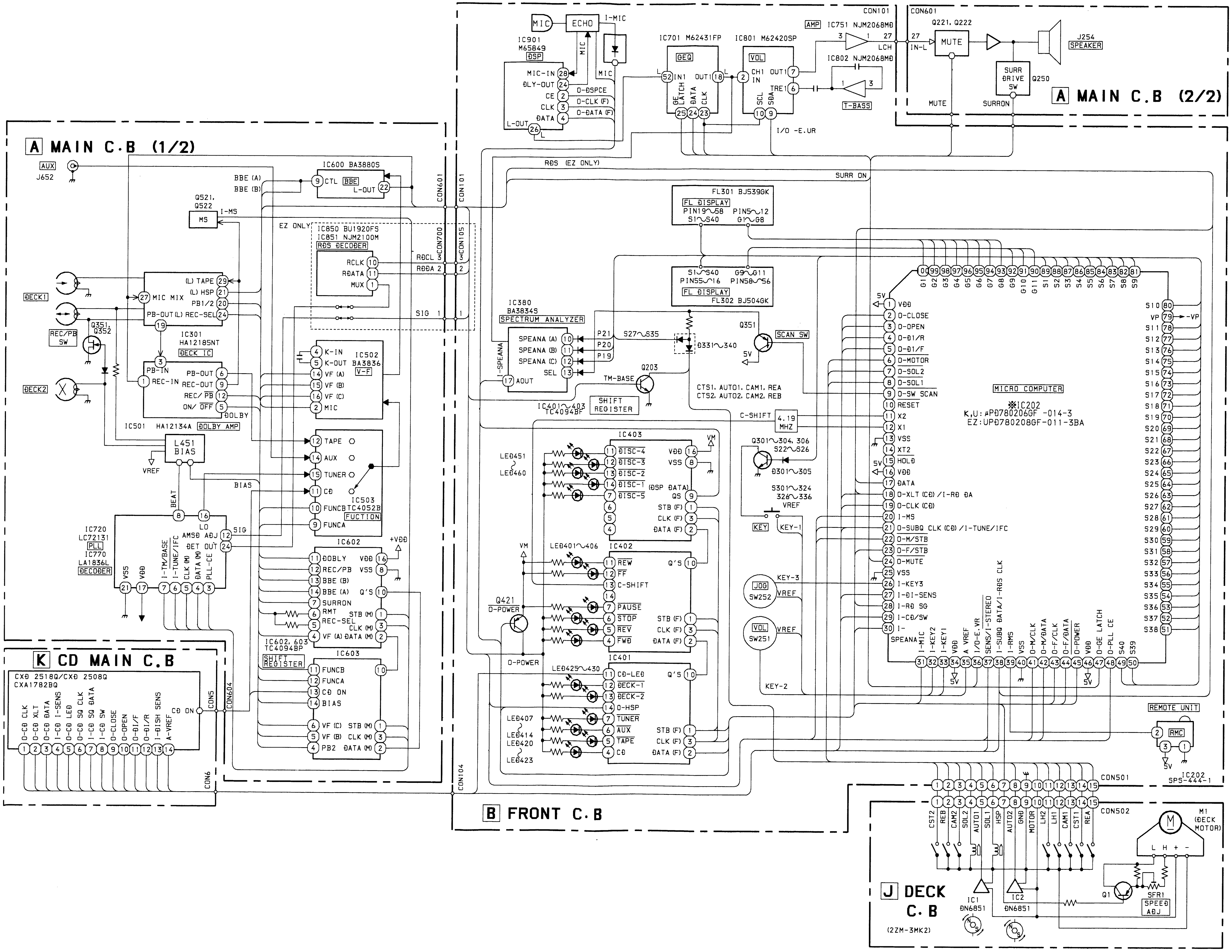
BLOCK DIAGRAM – 1 (TUNER : U)


TUNER BLOCK
FUNC TUN
FUNC TUN
FUNC A
STEREO
TM/BASE
M-CLK
M-DATA
PLL-CE
TUNE/IFC
TO FRONT BLOCK
IC720 LC72136 PLL
IC770 LA1836L DECODER
Q771, 772 TU+B SWITCH
+VM
+B
TP5 (STOP)
TP2 (CLK)
TP3 (DC) S-CURVE
TP4 (DC) (SG1)
TP2 (VT)
SFR722
SFR722 FM AUTO STOP LEVEL ADJ
TC701 CLOCK FREQ ADJ
X721 7.2MHz
X703 456kHz
AM IF ADJ
L701
L702
L741
L742
CF802 (10.7MHz)
CF801 (10.7MHz)
Q805 FM IF AMP
Q806 FM BAND SW
Q947 RF BUFF
AM PACK. 3
L981
AM TRACKING ADJ
FFE801 6ZA-1 YEEUNM
FM FRONT END
IF OUT
VT
OSC OUT
ANT
J801 ANTENNA
AM LOOP
FM 75 Ω
MPX VCO
TUNE
AM LBO
FM DET
IF BO
FM/AM
FM IF IN
DET OUT
AM IFT
AM IF IN
VCO
LO
RO
RI
LI
AM IFD/ST
REG
AM LO
AM RF
AM MIX
AM OSC
AM RF AMP
AM IF
AM DET
AGC
S-CURVE
ST SW
TUN DRV
BUFF
FM DET
FM IF
MONO/ST BEAT
CLK
DI
CE
TM-BASE
DO
XI
XO
AOUT
AIN
PD
IF-IN
IF MUTE
AM-I
FM/SW
FM-I

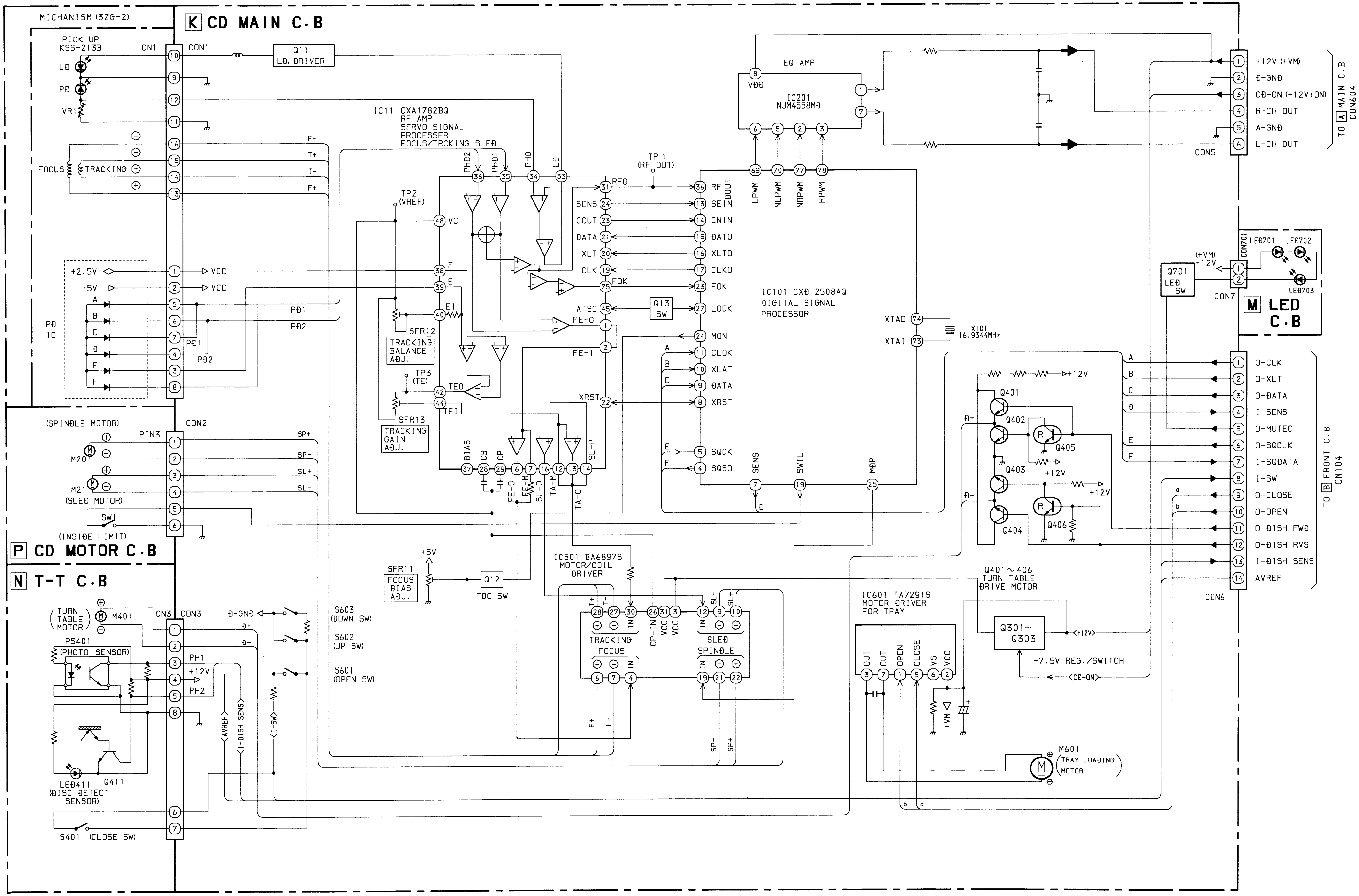
BLOCK DIAGRAM – 2 (TUNER : EZ, K)


TUNER BLOCK
TO MAIN BLOCK
L OUT
R OUT
TO MAIN BLOCK
MONO/ST
FUNC A
STEREO
TUNE/IFC
CLK
DATA
PLL-CE
T-BASE
IC720 LC72131 PLL
IC770 LA1836 AM FRONT END AM/FM IF/DET.
STEREO SWITCH
TUNING DRIVE
BUFFER
AM/FM IF BUFFER
FM IF
AM OSC
S-CURVE
AM RF AMP
FM DET
AM MIX
AM IF
AGC
DECODER
L701
L702
L741 BALANCE/MONO DISTORTION ADJ.
L742 AM IF ADJ.
X703 456kHz
SFR722 FM AUTO STOP LEVEL ADJ.
TP1
TP3
TP4
TP5
CF802 (10.7MHz)
CF801 (10.7MHz)
Q805 FM IF AMP
Q771, 772 +B SW
Q806 FM BAND SW
Q842 MW BAND SW
TC701 CLOCK ADJ.
X721 7.2MHz
D745
D748
D704
FFE801 6ZA-1 YFEENM FM FRONT END
IF OUT
OSC OUT
VT
VCC
ANT
L981 AMPACK 1 L981 (3/3)
L942 LW VT ADJ.
Q946 LW SWITCH
Q948 LW SWITCH
Q947 BUFFER
L981 (2/3)
TC942
D942 (2/2)
D944
L981 AM PACK 1 L981 (1/3) MW TRACKING ADJ.
L941, TC942 LW TRACKING ADJ.
L941
J801 (1/2)
J801 ANTENNA MW/LW LOOP
J801 (2/2)
FM 75 Ω (COAXIAL) J801
MXP VCO
AM LBO
VCO
IF BO
FM/AM
FM IF IN
AM RF
S CURVE
REG
AM LO
AM IFT
AM IF IN
DET OUT
FM DET
AM-I MONO TUNE
IF-IN IF-MUTE
FM/SW
MW
VDD
FM-I
AOUT
AIN PD
XIN
XOUT
DO
DI
CE
8HZ

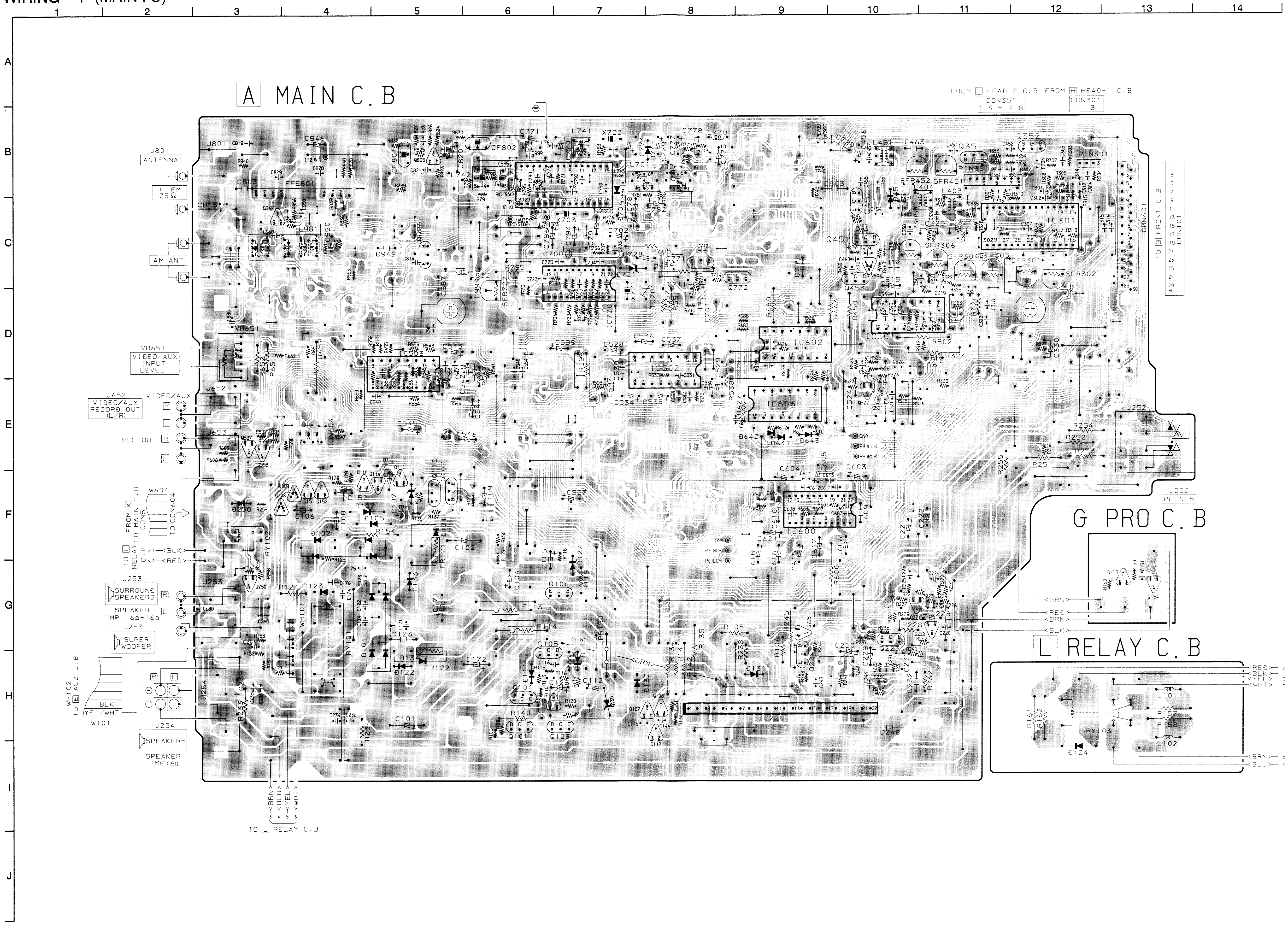
BLOCK DIAGRAM – 3 (MAIN / FRONT)


A MAIN C・B (1/2)
A MAIN C.B (2/2)
B FRONT C.B
K CD MAIN C.B
J DECK C.B
AUX
J652
IC600 BA3880S
CTL
BBE
L-OUT
BBE (A)
BBE (B)
Q521, Q522
MS
I-MS
EZ ONLY
IC850 BU1920FS
IC851 NJM2100M
RDS DECODER
RCLK
RDATA
MUX
RDCL
RDDA
SIG
CON601
CON101
CON700
CON105
CON104
CON604
CON5
CON6
DECK1
DECK2
REC/PB SW
Q351, Q352
MIC MIX
(L) TAPE
(L) HSP
PB1/2
PB-OUT(L) REC-SEL
IC301 HA12185NT
DECK IC
PB-IN
REC-IN
PB-OUT
REC-OUT
REC/PB
ON/OFF
DOLBY
IC501 HA12134A
DOLBY AMP
L451 BIAS
VREF
BEAT
LO
BIAS
IC502 BA3836
V-F
K-IN
K-OUT
VF (A)
VF (B)
VF (C)
MIC
TAPE
AUX
TUNER
CD
FUNCB
FUNCA
IC503 TC4052B
FUCTION
IC720 LC72131
PLL
IC770 LA1836L
DECODER
AMSD ADJ
DET OUT
VSS
VDD
I-TM/BASE
I-TUNE/IFC
CLK (M)
DATA (M)
PLL-CE
IC602
DOBLY
REC/PB
BBE (B)
BBE (A)
SURRON
RMT
REC-SEL
VF (A)
STB (M)
CLK (M)
DATA (M)
Q'S
+VDD
IC602, 603 TC4094BP
SHIFT REGISTER
IC603
FUNCB
FUNCA
CD ON
BIAS
VF (C)
VF (B)
PB2
CXD 2518Q/CXD 2508Q
CXA1782BQ
O-CD CLK
O-CD XLT
O-CD DATA
I-CD I-SENS
O-CD LED
O-CD SQ CLK
I-CD SQ DATA
O-CD SW
O-CLOSE
O-OPEN
O-DI/F
O-DI/R
I-DISH SENS
A-VREF
CD ON
MIC
ECHO
I-MIC
IC901 M65849
DSP
MIC-IN
DLY-OUT
CE
CLK
DATA
L-OUT
O-DSPCE
O-CLK (F)
O-DATA (F)
IC701 M62431FP
GEQ
IN1
OUT1
GE LATCH
DATA
CLK
IC801 M62420SP
VOL
CH1 IN
OUT1
TRE1
SCL
SDA
AMP
IC751 NJM2068MD
LCH
IC802 NJM2068MD
T-BASS
I/O -E.UR
CON601
CON101
IN-L
Q221, Q222
MUTE
SURR DRIVE SW
Q250
SURRON
J254
SPEAKER
RDS (EZ ONLY)
SURR ON
FL301 BJ539GK
FL DISPLAY
PIN19∼58 PIN5∼12
S1∼S40 G1∼G8
S1∼S40 G9∼G11
PIN55∼16 PIN58∼56
FL302 BJ504GK
IC380 BA3834S
SPECTRUM ANALYZER
SPEANA (A)
SPEANA (B)
SPEANA (C)
SEL
AOUT
I-SPEANA
P21
P20
P19
S27∼S35
D331∼340
Q351
SCAN SW
Q203
TM-BASE
IC401∼403 TC4094BP
SHIFT REGISTER
CTS1, AUTO1, CAM1, REA
CTS2, AUTO2, CAM2, REB
C-SHIFT
4.19 MHZ
Q301∼304, 306
S22∼S26
D301∼305
S301∼324
326∼336
VREF
KEY
KEY-1
KEY-2
KEY-3
JOG
SW252
VOL
SW251
IC403
LED451
LED460
DISC-4
DISC-3
DISC-2
DISC-1
DISC-5
DSP DATA
QS
STB (F)
CLK (F)
DATA (F)
VDD
VSS
VM
LED401∼406
IC402
REW
FF
C-SHIFT
PAUSE
STOP
REV
FWD
Q'S
Q421
O-POWER
LED425∼430
IC401
CD-LED
DECK-1
DECK-2
O-HSP
TUNER
AUX
TAPE
CD
LED407
LED414
LED420
LED423
MICRO COMPUTER
※IC202
K,U: μPD780206GF -014-3
EZ: UPD780208GF-011-3BA
5V
VDD
O-CLOSE
O-OPEN
O-DI/R
O-DI/F
O-MOTOR
O-SOL2
O-SOL1
O-SW SCAN
RESET
X2
X1
VSS
XT2
HOLD
VDD
DATA
O-XLT (CD) /I-RD DA
O-CLK (CD)
I-MS
O-SUBQ CLK (CD) /I-TUNE/IFC
O-M/STB
O-F/STB
O-MUTE
VSS
I-KEY3
I-DI-SENS
I-RD SG
I-CD/SW
I-SPEANA
I-MIC
I-KEY2
I-KEY1
VDD
A VREF
I/O-E.VR
SENS/I-STEREO
I-SUBQ DATA/I-RDS CLK
I-RMS
VSS
O-M/CLK
O-M/DATA
O-F/CLK
O-F/DATA
O-POWER
VDD
O-GE LATCH
O-PLL CE
S40
S39
G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11
S1 S2 S3 S4 S5 S6 S7 S8 S9
S10
VP
-VP
S11 S12 S13 S14 S15 S16 S17 S18 S19 S20 S21 S22 S23 S24 S25 S26 S27 S28 S29 S30 S31 S32 S33 S34 S35 S36 S37 S38
REMOTE UNIT
RMC
IC202 SPS-444-1
CON501
CON502
CST2
REB
CAM2
SOL2
AUTO1
SOL1
HSP
AUTO2
GND
MOTOR
LH2
LH1
CAM1
CST1
REA
M1 (DECK MOTOR)
L H + -
Q1
SFR1
SPEED ADJ
IC1 DN6851
IC2 DN6851
(2ZM-3MK2)

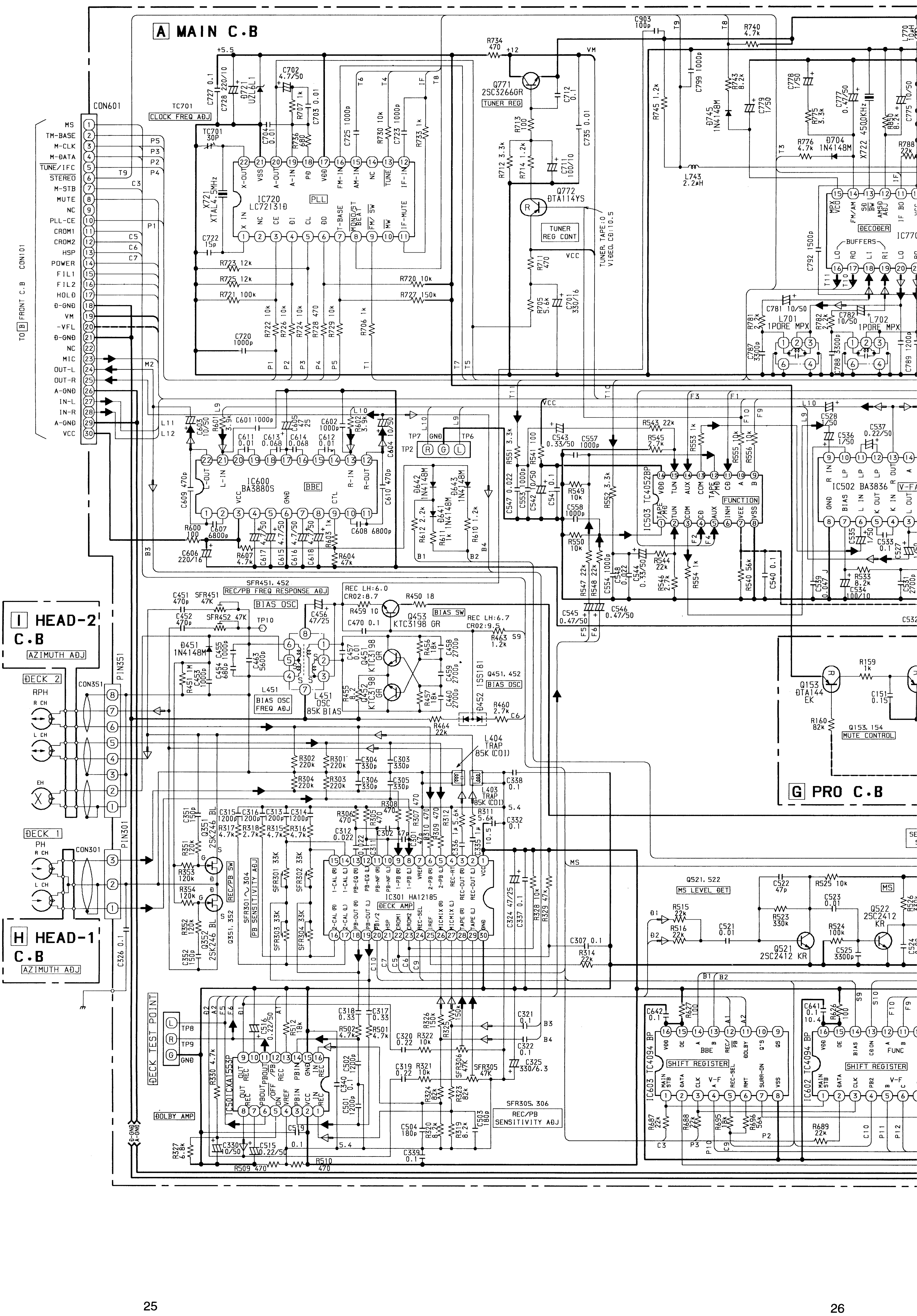
BLOCK DIAGRAM – 4 (CD)

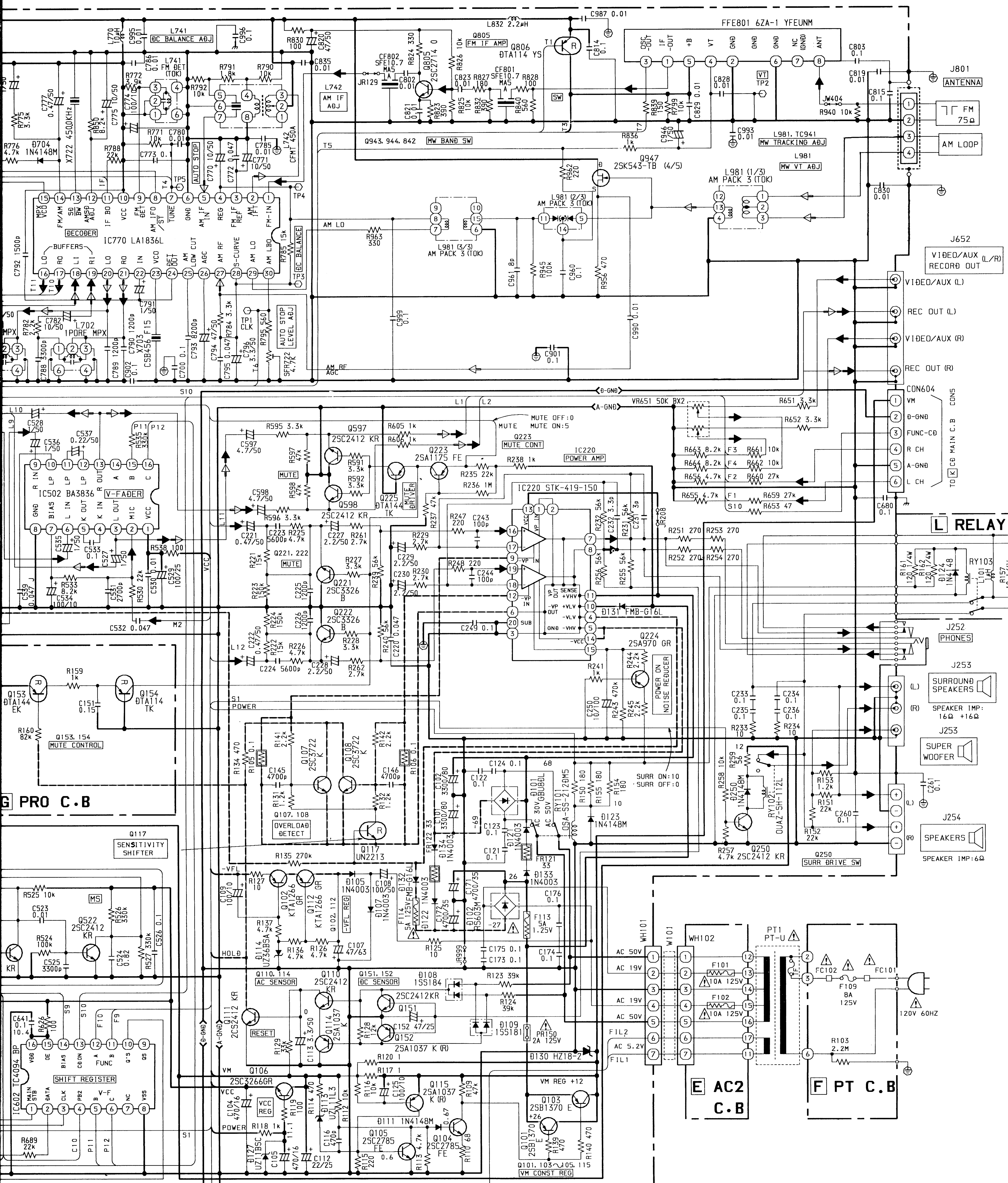

MICHANISM (3ZG-2)
PICK UP KSS-213B
CN1
LD
PD
VR1
FOCUS
TRACKING
PD IC
+2.5V
+5V
K CD MAIN C.B
CON1
Q11 LD. DRIVER
IC11 CXA1782BQ RF AMP SERVO SIGNAL PROCESSER FOCUS/TRCKING SLED
TP2 (VREF)
TP3 (TE)
TP 1 (RF OUT)
SFR12 TRACKING BALANCE ADJ.
SFR13 TRACKING GAIN ADJ.
SFR11 FOCUS BIAS ADJ.
Q12 FOC SW
Q13 SW
IC101 CXD 2508AQ DIGITAL SIGNAL PROCESSOR
X101 16.9344MHz
EQ AMP
IC201 NJM4558MD
CON5
+12V (+VM)
D-GND
CD-ON (+12V:ON)
R-CH OUT
A-GND
L-CH OUT
TO A MAIN C.B CON604
LED701
LED702
LED703
CON701
Q701 LED SW
CON7
M LED C.B
CON6
O-CLK
O-XLT
O-DATA
I-SENS
O-MUTEC
O-SQCLK
I-SQDATA
I-SW
O-CLOSE
O-OPEN
O-DISH FWD
O-DISH RVS
I-DISH SENS
AVREF
TO B FRONT C.B CN104
Q401~406 TURN TABLE DRIVE MOTOR
Q301~Q303
+7.5V REG./SWITCH
IC601 TA7291S MOTOR DRIVER FOR TRAY
M601 TRAY LOADING MOTOR
IC501 BA6897S MOTOR/COIL DRIVER
TRACKING
FOCUS
SLED
SPINDLE
CON2
(SPINDLE MOTOR)
M20
M21
(SLED MOTOR)
SW1
(INSIDE LIMIT)
P CD MOTOR C.B
N T-T C.B
CN3
CON3
TURN TABLE MOTOR
M401
PS401 (PHOTO SENSOR)
PH1
PH2
LED411
Q411
(DISC DETECT SENSOR)
S401 (CLOSE SW)
S603 (DOWN SW)
S602 (UP SW)
S601 (OPEN SW)
D-GND
(AVREF)
(I-DISH SENS)
(I-SW)

WIRING – 1 (MAIN : U)


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
A MAIN C.B
G PRO C.B
L RELAY C.B
FROM I HEAD-2 C.B CON351 1 3 5 7 8
FROM H HEAD-1 C.B CON301 1 3
J801 ANTENNA
FM 75Ω
AM ANT
VR651 VIDEO/AUX INPUT LEVEL
J652 VIDEO/AUX RECORD OUT (L/R)
VIDEO/AUX
REC OUT
R
L
FROM K MAIN C.B CON5
W604
TO CON604
TO L RELAY C.B
<BLK>
<RED>
J253 SURROUND SPEAKERS
SPEAKER IMP:16Ω+16Ω
J253 SUPER WOOFER
WH102 TO E AC2 C.B
BLK
YEL/WHT
W101
J254 SPEAKERS
SPEAKER IMP:6Ω
<BRN> <BLU> <YEL> <WHT>
3 4 5 6
TO L RELAY C.B
J252 PHONES
TO B FRONT C.B CON101
CON601
<GRN>
<RED>
<BRN>
<BLK>
<RED> 2
<GRN> 7
<BLK> 1
<WHT> 5
<YEL> 6
<BRN> 3
<BLU> 4
TO A MAIN C.B
RY103
L101
L102
R157
R158
R161
D124
IC223
IC600
IC603
IC602
IC502
IC501
IC301
IC720
IC770
CF802
FFE801
RY101
RY102
F113
F114
FR121
FR122

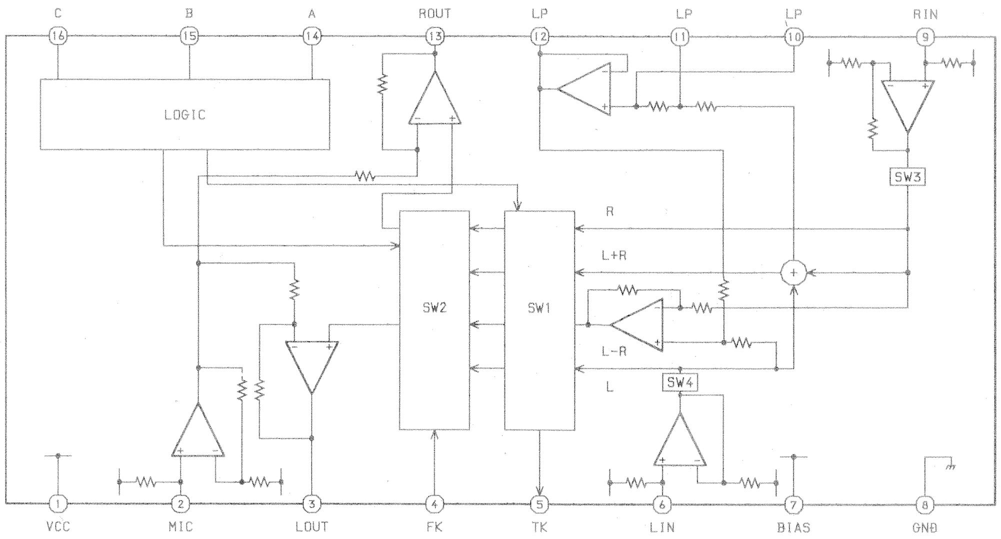
SCHEMATIC DIAGRAM – 1 (MAIN : U)


A MAIN C·B
CON601
TO B FRONT C.B CON101
MS
TM-BASE
M-CLK
M-DATA
TUNE/IFC
STEREO
M-STB
MUTE
NC
PLL-CE
CROM1
CROM2
HSP
POWER
FIL1
FIL2
HOLD
D-GND
VM
-VFL
D-GND
NC
MIC
OUT-L
OUT-R
A-GND
IN-L
IN-R
A-GND
VCC
TC701
CLOCK FREQ ADJ
IC720 LC72131D
PLL
X721 XTAL4.5MHz
Q771 2SC3266GR
TUNER REG
Q772 DTA114YS
TUNER REG CONT
TUNER, TAPE:0
VIDEO, CD:10.5
DECODER
IC770
BUFFERS
L701 1PORE MPX
L702 1PORE MPX
X722 450KHz
IC600 BA3880S
BBE
TP7 GND TP6
TP2
IC503 TC4052BP
FUNCTION
IC502 BA3836
SFR451, 452
REC/PB FREQ RESPONSE ADJ
BIAS OSC
BIAS SW
Q451, 452 BIAS OSC
L451 BIAS OSC FREQ ADJ
L451 OSC 85K BIAS
Q453 KTC3198 GR
Q451 KTC3198 GR
Q452 KTC3198 GR
L404 TRAP 85K (CO1)
L403 TRAP 85K (CO1)
I HEAD-2 C·B
AZIMUTH ADJ
DECK 2
RPH
R CH
L CH
EH
CON351
PIN351
DECK 1
PH
CON301
PIN301
H HEAD-1 C·B
AZIMUTH ADJ
Q351, 352
Q351 2SK246 BL
Q352 2SK246 BL
REC/PB SW
SFR301~304
PB SENSITIVITY ADJ
IC301 HA12185
DECK AMP
G PRO C·B
Q153 DTA144 EK
Q153, 154
MUTE CONTROL
Q521, 522
MS LEVEL DET
Q521 2SC2412 KR
Q522 2SC2412 KR
MS
DECK TEST POINT
TP8
TP9
GND
IC501 CXA1553P
DOLBY AMP
SFR305, 306
REC/PB SENSITIVITY ADJ
IC603 TC4094 BP
SHIFT REGISTER
IC602 TC4094 BP
SHIFT REGISTER
D-GND
A-GND

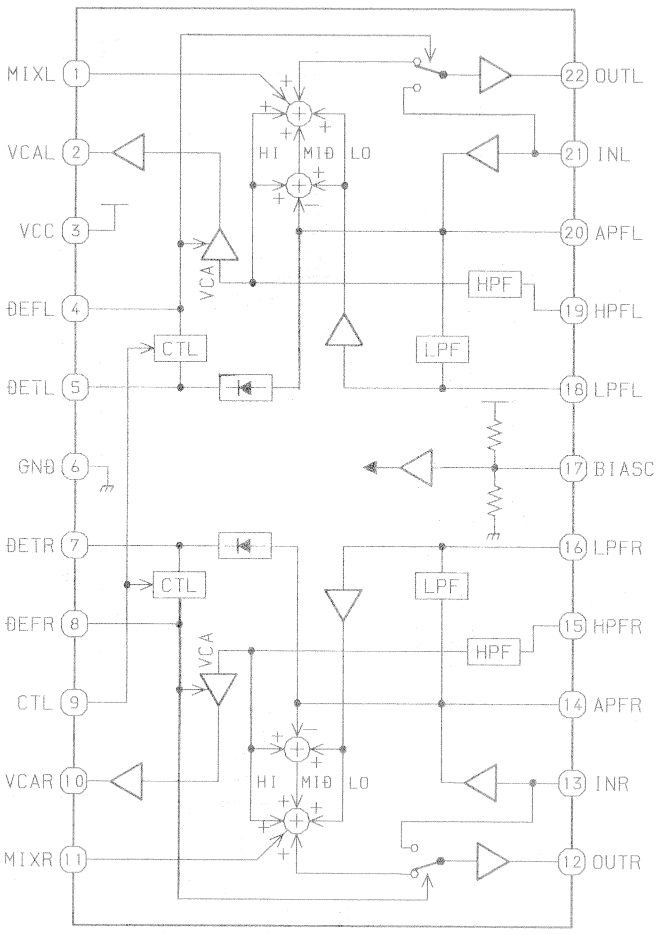

FFE801 6ZA-1 YFEUNM
J801
ANTENNA
FM 75Ω
AM LOOP
L741 DC BALANCE ADJ
L741 FM DET (TOK)
L742 AM IF ADJ
Q805 FM IF AMP
Q806 DTA114 YS
Q943, 944, 842 MW BAND SW
L981, TC941 MW TRACKING ADJ
L981 MW VT ADJ
Q947 2SK543-TB (4/5)
L981 (1/3) AM PACK 3 (TOK)
L981 (2/3) AM PACK 3 (TOK)
L981 (3/3) AM PACK 3 (TOK)
AUTO STOP
DECODER
BUFFERS
IC770 LA1836L
DC BALANCE
AUTO STOP LEVEL ADJ
J652
VIDEO/AUX RECORD OUT (L/R)
VIDEO/AUX (L)
REC OUT (L)
VIDEO/AUX (R)
REC OUT (R)
CON604
VM
D-GND
FUNC-CD
R CH
A-GND
L CH
TO K CD MAIN C.B CON5
VR651 50K BX2
IC502 BA3836 V-FADER
MUTE
Q597 2SC2412 KR
Q598 2SC2412 KR
Q223 MUTE CONT
MUTE OFF:0 MUTE ON:5
Q225 DTA144 TK MUTE DRIVER
IC220 POWER AMP
IC220 STK-419-150
Q221, 222 MUTE
Q221 2SC3326 B
Q222 2SC3326 B
D131 FMB-G16L
Q224 2SA970 GR
POWER ON NOISE REDUCER
L RELAY C.B
RY103
J252 PHONES
J253 SURROUND SPEAKERS
SPEAKER IMP: 16Ω +16Ω
J253 SUPER WOOFER
J254 SPEAKERS
SPEAKER IMP:6Ω
Q153 DTA144 EK
Q154 DTA114 TK
Q153, 154 MUTE CONTROL
G PRO C.B
Q107, 108 OVERLOAD DETECT
Q107 2SC3722 K
Q108 2SC3722 K
Q117 SENSITIVITY SHIFTER
Q117 UN2213
D101 GBU8DL
RY101 DSA-SS-212DM5
SURR ON:10 SURR OFF:0
RY102 OUAZ-SH-112L
Q250 2SC2412 KR
Q250 SURR DRIVE SW
Q102 KTA1266 GR
Q112 KTA1266 GR
Q102, 112 -VFL REG
MS
Q522 2SC2412 KR
Q110, 114 AC SENSOR
Q110 2SC2412 KR
Q111 2CS2412 KR
RESET
Q114 2SA1037 K
Q151, 152 DC SENSOR
Q151 2SC2412KR
Q152 2SA1037 K (R)
PR150 2A 125V
D130 HZ18-2
F113 5A 1.25V
F114 5A 125V
IC602 TC4094 BP
SHIFT REGISTER
Q106 2SC3266GR
VCC REG
Q115 2SA1037 K (R)
VM REG +12
Q103 2SB1370 E
Q105 2SC2785 FE
Q104 2SC2785 FE
Q101 2SB1370 E
Q101, 103, 105, 115 VM CONST REG
W101
WH101
WH102
E AC2 C.B
PT1 PT-U
F101 10A 125V
F102 10A 125V
F109 8A 125V
FC102
FC101
120V 60HZ
R103 2.2M
F PT C.B
AC 50V
AC 19V
AC 5.2V
FIL1
FIL2
SIGNAL: PB/FM REC/AM

IC BLOCK DIAGRAM – 1

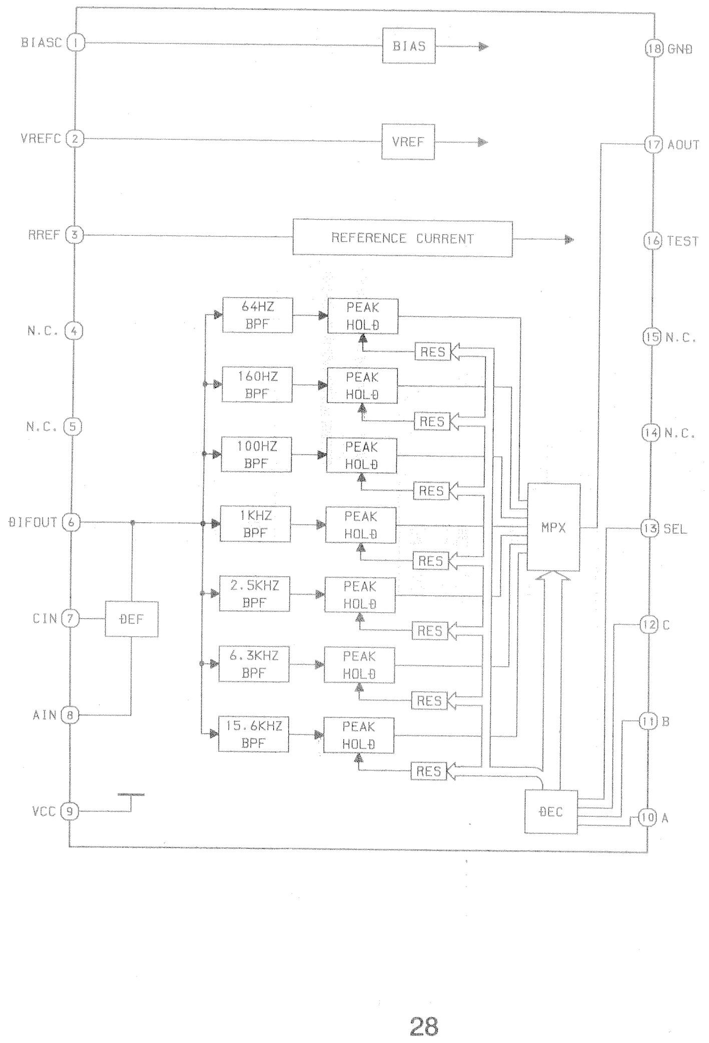
IC, BA3836


C
B
A
ROUT
LP
LP
LP
RIN
16
15
14
13
12
11
10
9
LOGIC
SW3
SW2
SW1
R
L+R
L-R
L
SW4
1
2
3
4
5
6
7
8
VCC
MIC
LOUT
FK
TK
LIN
BIAS
GND

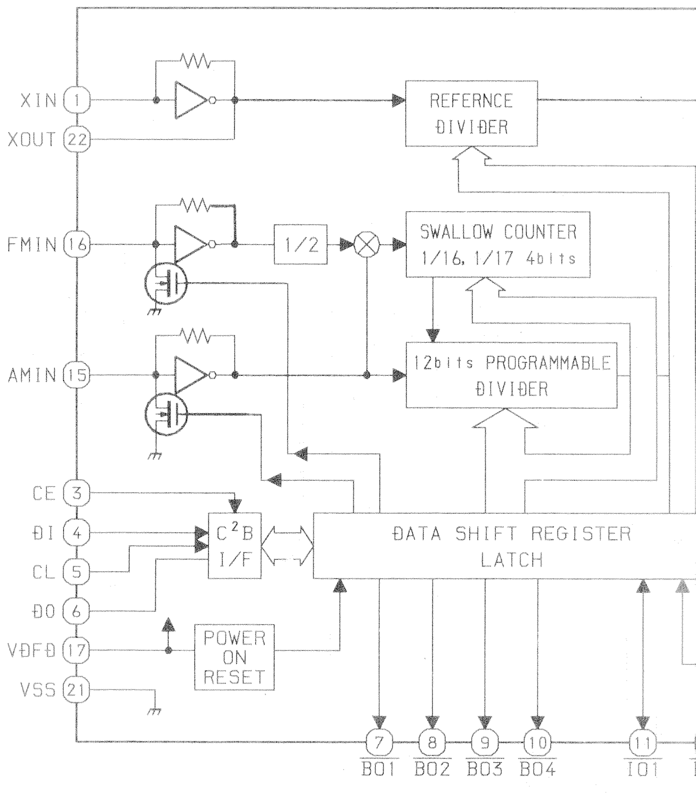
IC, BA3880S


MIXL 1
VCAL 2
VCC 3
DEFL 4
DETL 5
GND 6
DETR 7
DEFR 8
CTL 9
VCAR 10
MIXR 11
22 OUTL
21 INL
20 APFL
19 HPFL
18 LPFL
17 BIASC
16 LPFR
15 HPFR
14 APFR
13 INR
12 OUTR
HI
MID
LO
VCA
HPF
LPF
CTL

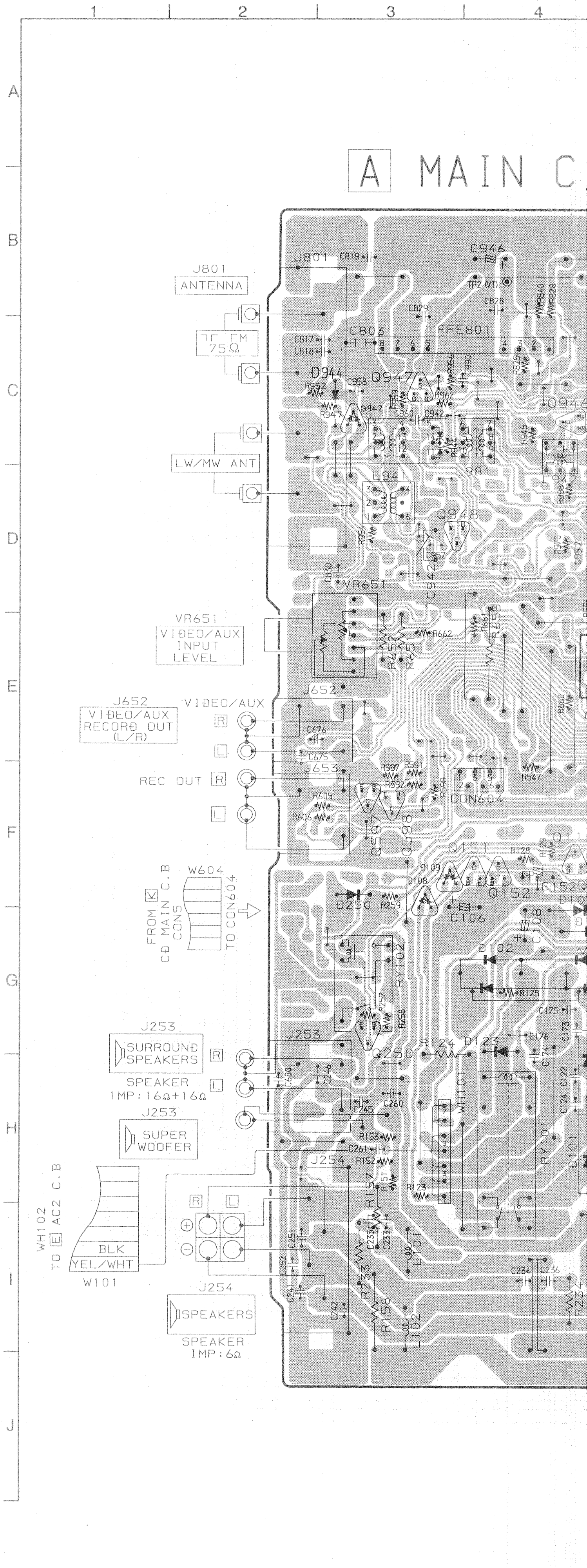
IC, BA3834S

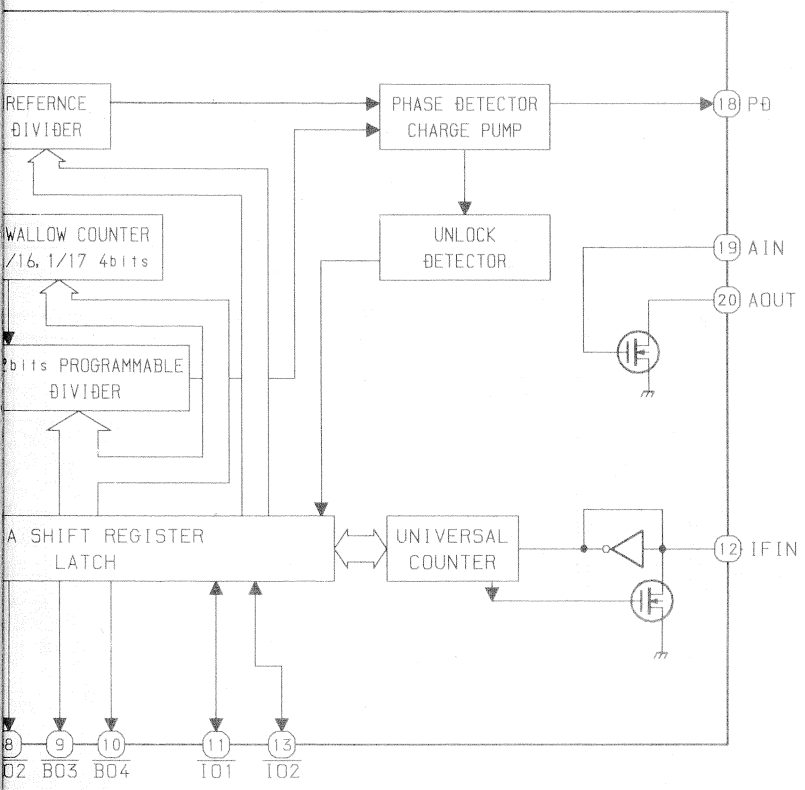

BIASC 1
VREFC 2
RREF 3
N.C. 4
N.C. 5
DIFOUT 6
CIN 7
AIN 8
VCC 9
18 GND
17 AOUT
16 TEST
15 N.C.
14 N.C.
13 SEL
12 C
11 B
10 A
BIAS
VREF
REFERENCE CURRENT
64HZ BPF
160HZ BPF
100HZ BPF
1KHZ BPF
2.5KHZ BPF
6.3KHZ BPF
15.6KHZ BPF
PEAK HOLD
RES
MPX
DEC
DEF

IC, LC72131

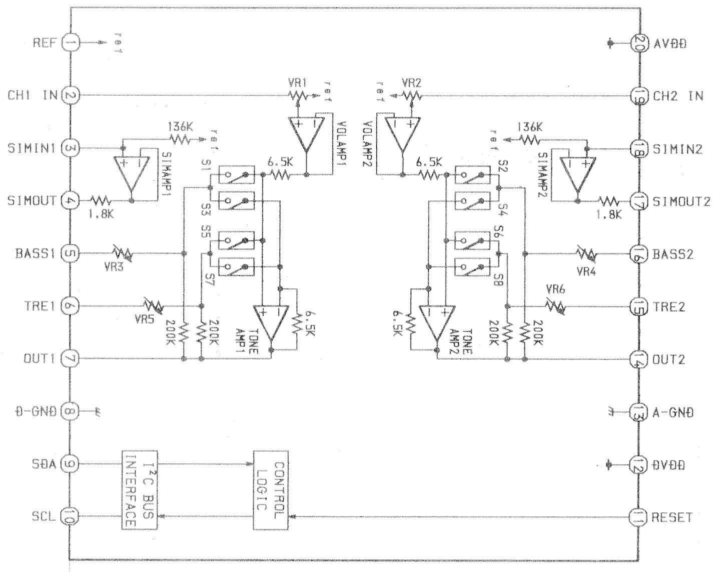

XIN 1
XOUT 22
FMIN 16
AMIN 15
CE 3
DI 4
CL 5
DO 6
VDFD 17
VSS 21
REFERNCE DIVIDER
1/2
SWALLOW COUNTER 1/16, 1/17 4bits
12bits PROGRAMMABLE DIVIDER
C²B I/F
DATA SHIFT REGISTER LATCH
POWER ON RESET
7
8
9
10
11
BO1
BO2
BO3
BO4
IO1

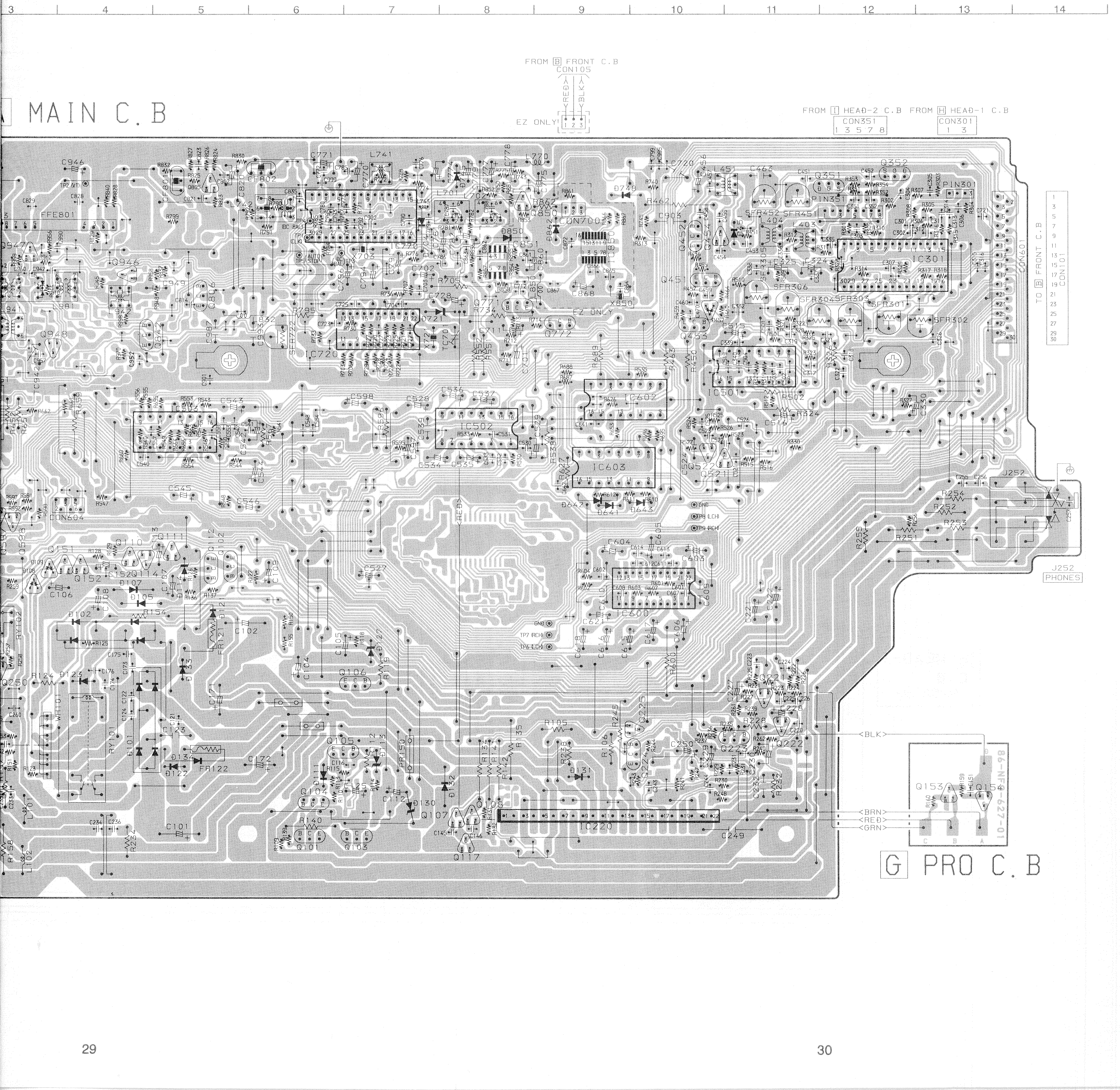
WIRING – 2 (MAIN : EZ, K)


1
2
3
4
A
B
C
D
E
F
G
H
I
J
A MAIN C
J801 ANTENNA
FM 75Ω
LW/MW ANT
VR651 VIDEO/AUX INPUT LEVEL
J652 VIDEO/AUX RECORD OUT (L/R)
VIDEO/AUX
REC OUT
R
L
W604
FROM CD MAIN C.B CON5
TO CON604
J253 SURROUND SPEAKERS
SPEAKER IMP:16Ω+16Ω
J253 SUPER WOOFER
WH102 TO E AC2 C.B
BLK
YEL/WHT
W101
J254 SPEAKERS
SPEAKER IMP:6Ω
FFE801
C803
D944
Q947
Q948
L941
VR651
J652
J653
CON604
Q151
Q152
D250
C106
D102
RY102
Q250
R124
D123
J254
RY101
D101
L102
Q101

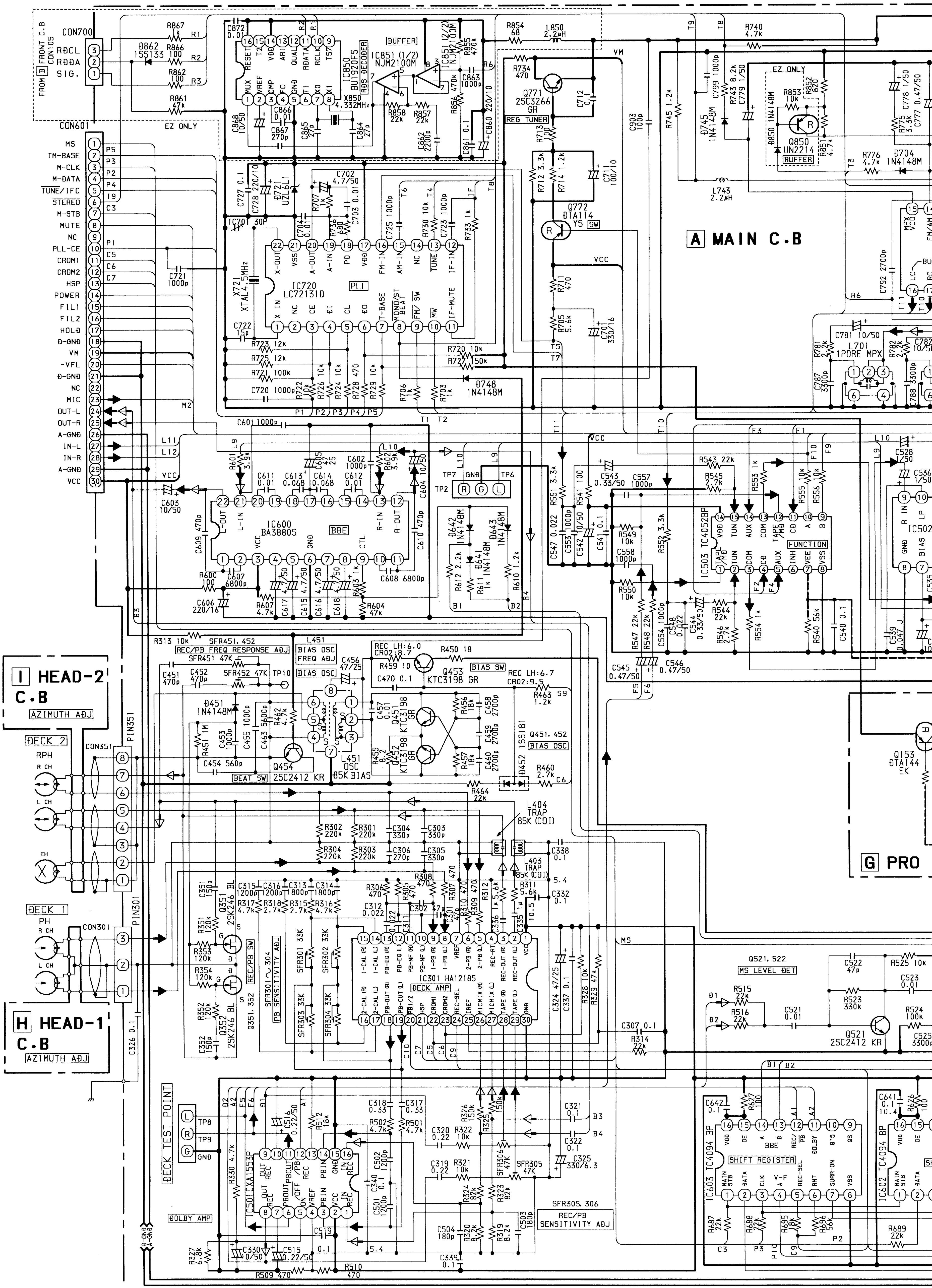

REFERNCE DIVIDER
PHASE DETECTOR CHARGE PUMP
18 PD
WALLOW COUNTER /16, 1/17 4bits
UNLOCK DETECTOR
19 AIN
20 AOUT
2bits PROGRAMMABLE DIVIDER
A SHIFT REGISTER LATCH
UNIVERSAL COUNTER
12 IFIN
8 9 10 11 13
D2 BO3 BO4 IO1 IO2

IC, M62420SP

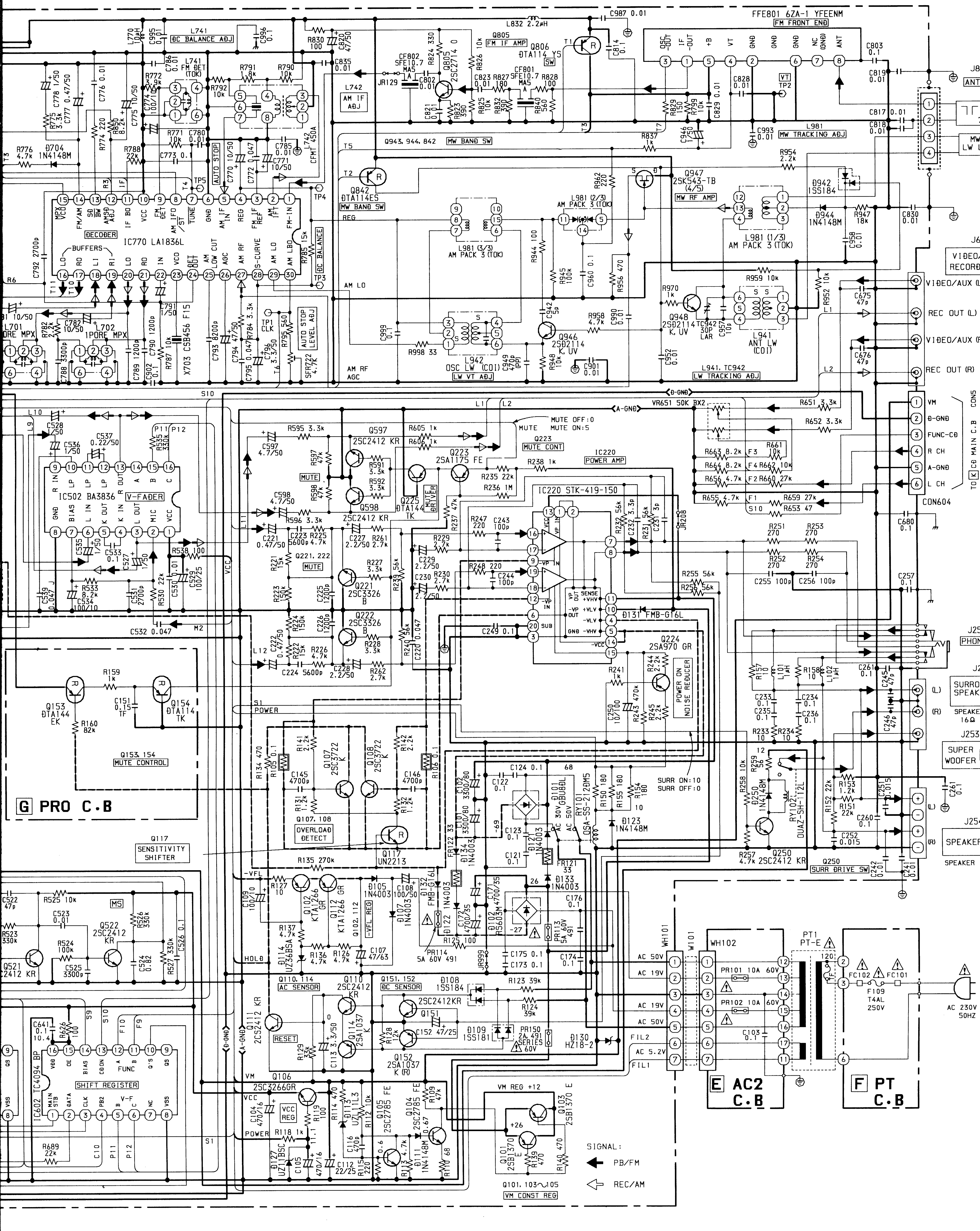

REF 1
CH1 IN 2
SIMIN1 3
SIMOUT 4
BASS1 5
TRE1 6
OUT1 7
D-GND 8
SDA 9
SCL 10
AVDD 20
CH2 IN 19
SIMIN2 18
SIMOUT2 17
BASS2 16
TRE2 15
OUT2 14
A-GND 13
DVDD 12
RESET 11
VR1
VR2
VR3
VR4
VR5
VR6
136K
1.8K
6.5K
200K
SIMAMP1
SIMAMP2
VOLAMP1
VOLAMP2
TONE AMP1
TONE AMP2
S1 S2 S3 S4 S5 S6 S7 S8
I²C BUS INTERFACE
CONTROL LOGIC


3 4 5 6 7 8 9 10 11 12 13 14
A MAIN C.B
FROM B FRONT C.B
CON105
RED
BLK
EZ ONLY
1 2 3
FROM I HEAD-2 C.B
CON351
1 3 5 7 8
FROM H HEAD-1 C.B
CON301
1 3
TO B FRONT C.B
CON101
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 30
CON601
IC301
IC501
IC502
IC600
IC602
IC603
IC720
IC220
J252
PHONES
<BLK>
<BRN>
<RED>
<GRN>
Q153
Q154
86-NF9-627-01
C B A
G PRO C.B

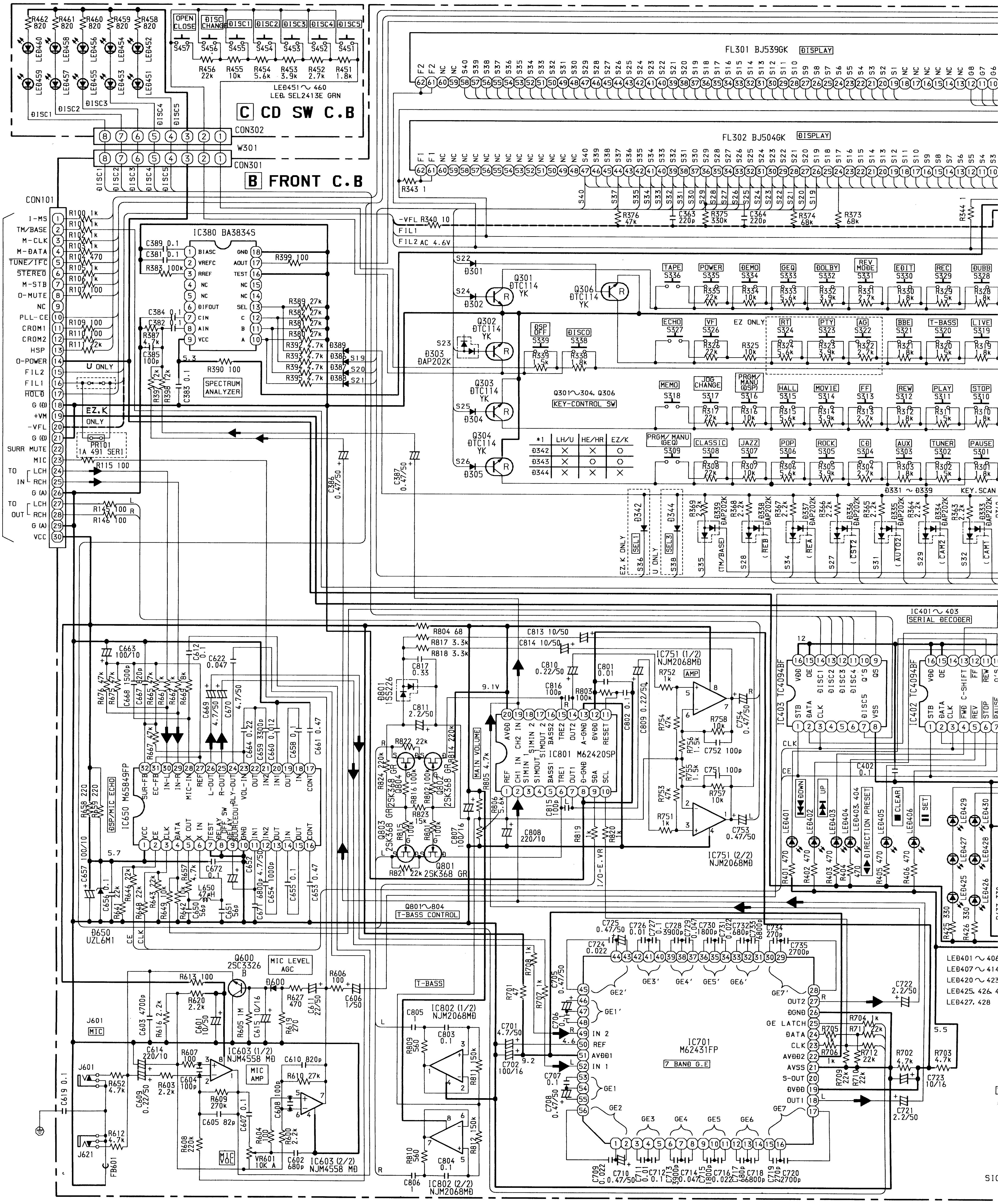
SCHEMATIC DIAGRAM – 2 (MAIN : EZ, K)

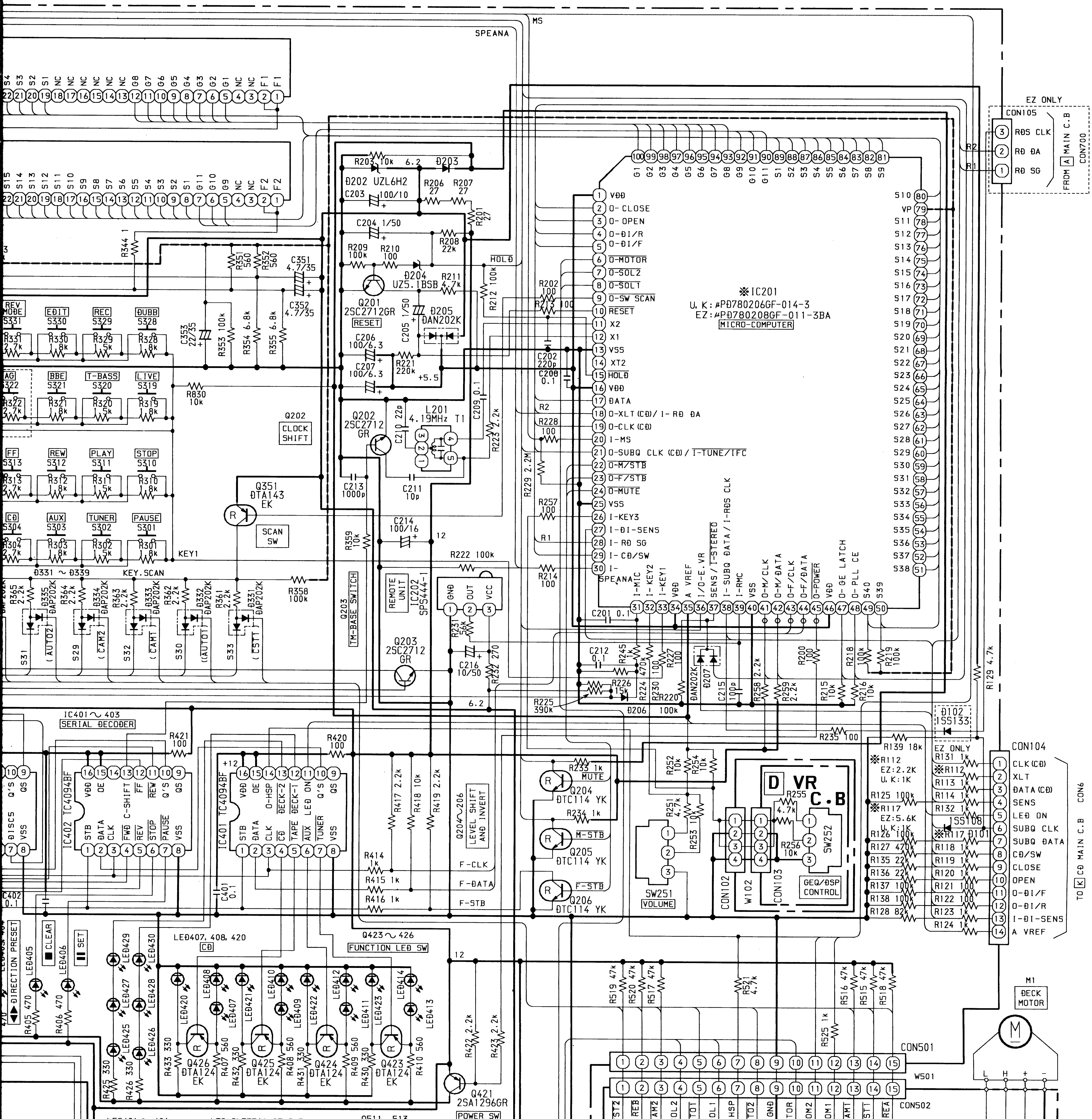


A MAIN C.B
I HEAD-2 C.B
AZIMUTH ADJ
H HEAD-1 C.B
AZIMUTH ADJ
G PRO
DECK 2
RPH
R CH
L CH
EH
DECK 1
PH
CON700
CON601
CON351
CON301
PIN351
PIN301
FROM B FRONT C.B CON105
RDCL
RDDA
SIG.
EZ ONLY
MS
TM-BASE
M-CLK
M-DATA
TUNE/IFC
STEREO
M-STB
MUTE
NC
PLL-CE
CROM1
CROM2
HSP
POWER
FIL1
FIL2
HOLD
D-GND
VM
-VFL
D-GND
NC
MIC
OUT-L
OUT-R
A-GND
IN-L
IN-R
A-GND
VCC
IC850 BU1920FS
RDS DECODER
X850 4.332MHz
IC851 (1/2) NJM2100M
IC851 (2/2) NJM2100M
BUFFER
Q771 2SC3266 GR
REG TUNER
Q772 DTA114 YS
SW
IC720 LC72131D
PLL
X721 XTAL4.5MHz
D721 UZL6.1
D748 1N4148M
IC600 BA3880S
BBE
TP7
TP6
TP2
GND
D642 1N4148M
D643 1N4148M
D641 1N4148M
IC503 TC4052BP
FUNCTION
Q850 UN2214
D850 1N4148M
D745 1N4148M
D704 1N4148M
L701 1PORE MPX
L743 2.2μH
L850 2.2μH
SFR451, 452
REC/PB FREQ RESPONSE ADJ
L451
BIAS OSC FREQ ADJ
BIAS OSC
Q453 KTC3198 GR
BIAS SW
REC LH:6.0 CR02:8.7
REC LH:6.7 CR02:9.5
Q451, 452 KTC3198 GR
Q451, 452 BIAS OSC
D452 1SS181
D451 1N4148M
Q454 2SC2412 KR
BEAT SW
L451 OSC 85K BIAS
L404 TRAP 85K (COI)
L403 TRAP 85K (COI)
Q351 2SK246 BL
Q352 2SK246 BL
Q351, 352
REC/PB SW
SFR301 ~ 304
PB SENSITIVITY ADJ
IC301 HA12185
DECK AMP
Q521, 522
MS LEVEL DET
Q521 2SC2412 KR
Q153 DTA144 EK
DECK TEST POINT
TP8
TP9
IC501 CXA1553P
DOLBY AMP
SFR305, 306
REC/PB SENSITIVITY ADJ
IC603 TC4094 BP
SHIFT REGISTER
IC602 TC4094 BP
IC502
D-GND
A-GND


FFE801 6ZA-1 YFEENM
FM FRONT END
J801
ANTENNA
FM 75Ω
MW/ LW LOOP
L741 BC BALANCE ADJ
L741 FM DET (TOK)
Q805 FM IF AMP
Q806 ÐTA114 YS SW
L742 AM IF ADJ
Q943, 944, 842 MW BAND SW
Q842 ÐTA114ES MW BAND SW
VT TP2
L981 MW TRACKING ADJ
Q947 2SK543-TB (4/5) MW RF AMP
L981 (2/3) AM PACK 3 (TOK)
L981 (1/3) AM PACK 3 (TOK)
L981 (3/3) AM PACK 3 (TOK)
L942 OSC LW (COI) LW VT ADJ
L941 ANT LW (COI)
L941, TC942 LW TRACKING ADJ
AUTO STOP
DECODER
IC770 LA1836L
BC BALANCE
AUTO STOP LEVEL ADJ
J652
VIDEO/AUX (L/R) RECORD OUT
VIDEO/AUX (L)
REC OUT (L)
VIDEO/AUX (R)
REC OUT (R)
IC502 BA3836 V-FADER
Q597 2SC2412 KR
MUTE
Q598 2SC2412 KR
Q223 2SA1175 FE
Q223 MUTE CONT
Q225 ÐTA144 TK MUTE DRIVER
IC220 POWER AMP
IC220 STK-419-150
Q221, 222 MUTE
Q221 2SC3326 B
Q222 2SC3326 B
VR651 50K BX2
CON5 TO K CD MAIN C.B
VM
D-GND
FUNC-CD
R CH
A-GND
L CH
CON604
D131 FMB-G16L
Q224 2SA970 GR
POWER ON NOISE REDUCER
J252 PHONES
J253 SURROUND SPEAKERS
SPEAKER IMP: 16Ω +16Ω
J253 SUPER WOOFER
J254 SPEAKERS
SPEAKER IMP: 6Ω
RY102 OUAZ-SH-112L
Q250 2SC2412 KR
Q250 SURR DRIVE SW
SURR ON: 10 SURR OFF: 0
RY101 OSA-SS-212DM5
Q153 ÐTA144 EK
Q154 ÐTA114 TK
Q153, 154 MUTE CONTROL
G PRO C.B
Q107 2SC3722 K
Q108 2SC3722 K
Q107, 108 OVERLOAD DETECT
Q117 UN2213
Q117 SENSITIVITY SHIFTER
D101 GBU6DL
D102 RS603M
Q102 KTA1266 GR
Q112 KTA1266 GR
Q102, 112 -VFL REG
Q522 2SC2412 KR
MS
Q521 2SC2412 KR
Q110, 114 AC SENSOR
Q110 2SC2412 KR
Q114 2SA1037 K
Q151, 152 DC SENSOR
Q151 2SC2412KR
Q152 2SA1037 K (R)
Q111 2SC2412 KR
RESET
D130 HZ18-2
IC602 TC4094 BP
SHIFT REGISTER
Q106 2SC3266GR
VCC REG
Q105 2SC2785 FE
Q104 2SC2785 FE
VM REG +12
Q103 2SB1370 E
Q101 2SB1370 E
Q101, 103~105 VM CONST REG
SIGNAL:
PB/FM
REC/AM
WH101
W101
WH102
PR101 10A 60V
PR102 10A 60V
E AC2 C.B
PT1 PT-E
F PT C.B
FC102 FC101
F109 T4AL 250V
AC 230V 50HZ

SCHEMATIC DIAGRAM – 3 (FRONT)

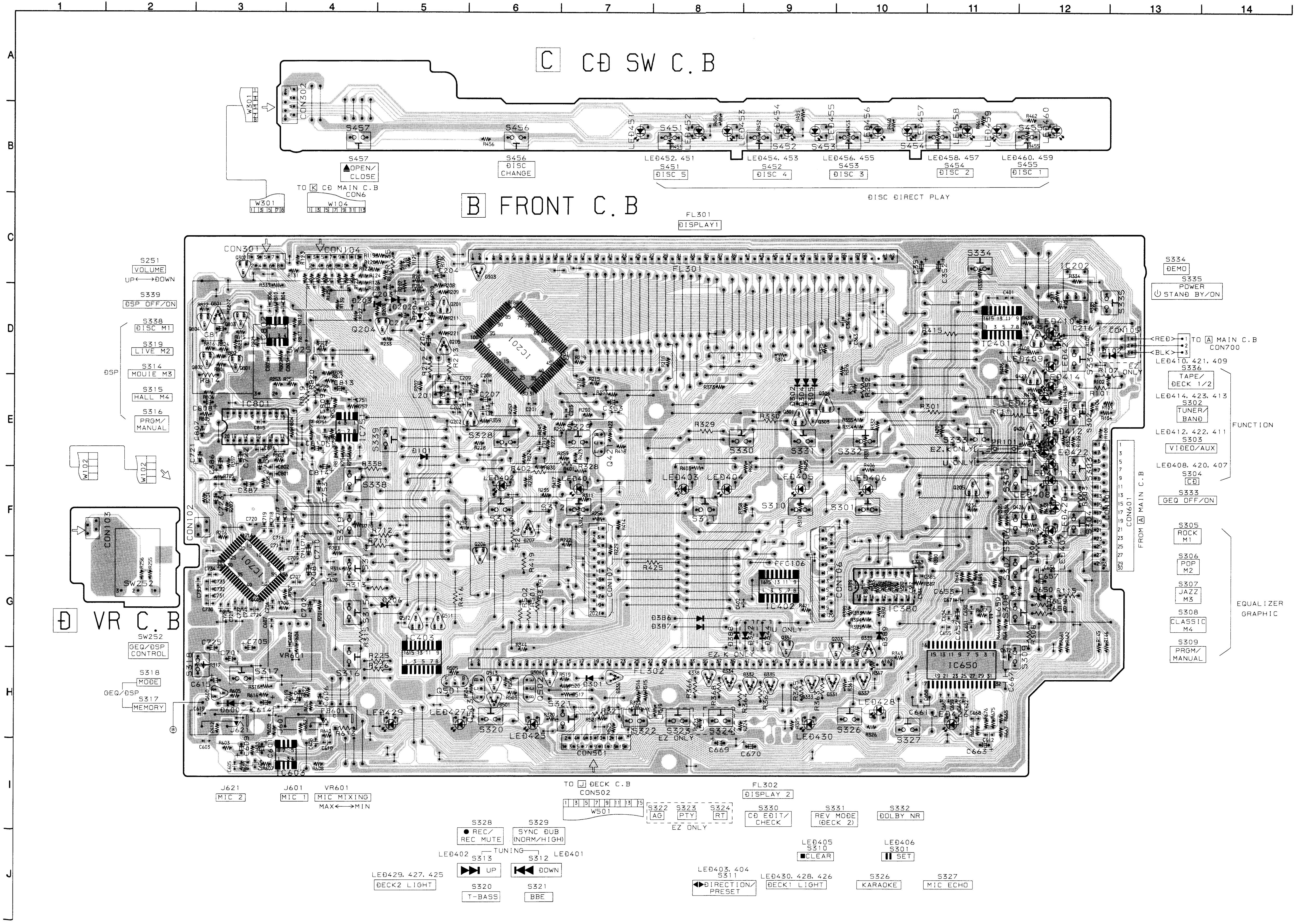

C CD SW C.B
B FRONT C.B
CON302
W301
CON301
CON101
FROM A MAIN C.B CON601
LED451 ∼ 460 LED SEL2413E GRN
OPEN CLOSE
DISC CHANGE
DISC1
DISC2
DISC3
DISC4
DISC5
FL301 BJ539GK DISPLAY
FL302 BJ504GK DISPLAY
IC380 BA3834S
SPECTRUM ANALYZER
Q301∼304, Q306 KEY-CONTROL SW
D331 ∼ D339
KEY.SCAN
IC401 ∼ 403 SERIAL DECODER
IC403 TC4094BF
IC402 TC4094BF
IC650 M65849FP
DSP/MIC ECHO
D650 UZL6M1
Q600 2SC3326
MIC LEVEL AGC
J601 MIC
J621
IC603 (1/2) NJM4558 MD
MIC AMP
MIC VOL
IC603 (2/2) NJM4558 MD
VR601 10K A
Q801∼804 T-BASS CONTROL
T-BASS
IC802 (1/2) NJM2068MD
IC802 (2/2) NJM2068MD
IC801 M62420SP
MAIN VOLUME
I/O-E.VR
IC751 (1/2) NJM2068MD
IC751 (2/2) NJM2068MD
AMP
IC701 M62431FP
7 BAND G.E
EZ.K ONLY
U ONLY
PR101 1A 491 SER1
TAPE
POWER
DEMO
GEQ
DOLBY
REV MODE
EDIT
REC
DUBB
ECHO
VF
EZ ONLY
RT
PTY
AG
BBE
T-BASS
LIVE
DSP OFF
DISCO
MEMO
JOG CHANGE
PRGM/MANU (DSP)
HALL
MOVIE
FF
REW
PLAY
STOP
PRGM/MANU (GEQ)
CLASSIC
JAZZ
POP
ROCK
CD
AUX
TUNER
PAUSE
DOWN
UP
DIRECTION PRESET
CLEAR
SET
LED401 ∼ 406
LED407 ∼ 414
LED420 ∼ 423
LED425, 426
LED427, 428


MS
SPEANA
EZ ONLY
CON105
RDS CLK
RD DA
RD SG
FROM [A] MAIN C.B CON700
※IC201
U.K:μPD780206GF-014-3
EZ:μPD780208GF-011-3BA
MICRO-COMPUTER
Q201 2SC2712GR RESET
Q202 2SC2712 GR
Q202 CLOCK SHIFT
L201 4.19MHz T1
Q351 DTA143 EK
SCAN SW
KEY1
KEY.SCAN
D331 ~ D339
REV MODE S331
EDIT S330
REC S329
DUBB S328
BBE S321
T-BASS S320
LIVE S319
FF S313
REW S312
PLAY S311
STOP S310
CD S304
AUX S303
TUNER S302
PAUSE S301
REMOTE UNIT IC202 SPS444-1
Q203 TM-BASE SWITCH
Q203 2SC2712 GR
IC401 ~ 403 SERIAL DECODER
IC402 TC4094BF
IC401 TC4094BF
Q204~206 LEVEL SHIFT AND INVERT
Q204 DTC114 YK
Q205 DTC114 YK
Q206 DTC114 YK
MUTE
M-STB
F-STB
F-CLK
F-DATA
D VR C.B
SW251 VOLUME
SW252 GEQ/DSP CONTROL
CON102
W102
CON103
CON104
TO [K] CD MAIN C.B CON6
CLK(CD)
XLT
DATA(CD)
SENS
LED ON
SUBQ CLK
SUBQ DATA
CD/SW
CLOSE
OPEN
O-DI/F
O-DI/R
I-DI-SENS
A VREF
D102 1SS133
D101 1SS108
LED407, 408, 420 CD
Q423~426 FUNCTION LED SW
Q426 DTA124 EK
Q425 DTA124 EK
Q424 DTA124 EK
Q423 DTA124 EK
Q421 2SA1296GR POWER SW
POWER ON:12V
Q511 513 PRE DRIVER
Q513 DTC144 WK
Q512 DTC144 WK
Q511 DTC144 WK
Q503 2SA952 K
Q501 2SA952K
D501 DAP202K
Q502 2SA1296 GR
MOTOR
SOL2
SOL1
Q502 MOTOR DRIVER
Q501 DECK2 SOL DRIVER
Q503 DECK1 SOL DRIVER
M1 DECK MOTOR
CON501
W501
CON502
W001
IC1, IC2 AUTO STOP DN6851
MOTOR H-SPEED SW
Q1 2SA933S (RS)
SFR1 SPEED ADJ
[J] DECK C.B
CLEAR
SET
DIRECTION PRESET
LED401 ~ 406   LED, SLZ736A-25-S-T
LED407 ~ 414   LED, SEL2413E GRN
LED420 ~ 423   LED, SLR-342VCT31 RED
LED425, 426, 429, 430   LED, SLZ-738A-24-S PGRN
LED427, 428   LED, SLZ-936C-30-S RED
LED411, 412, 422 VIDEO/AUX
LED413, 414, 423 TUNER/BAND
LED421, 409, 410 TAPE DECK 1/2
LED425, 427, 429 DECK2 LIGHT
LED426, 428, 430 DECK1 LIGHT
SIGNAL: → PB

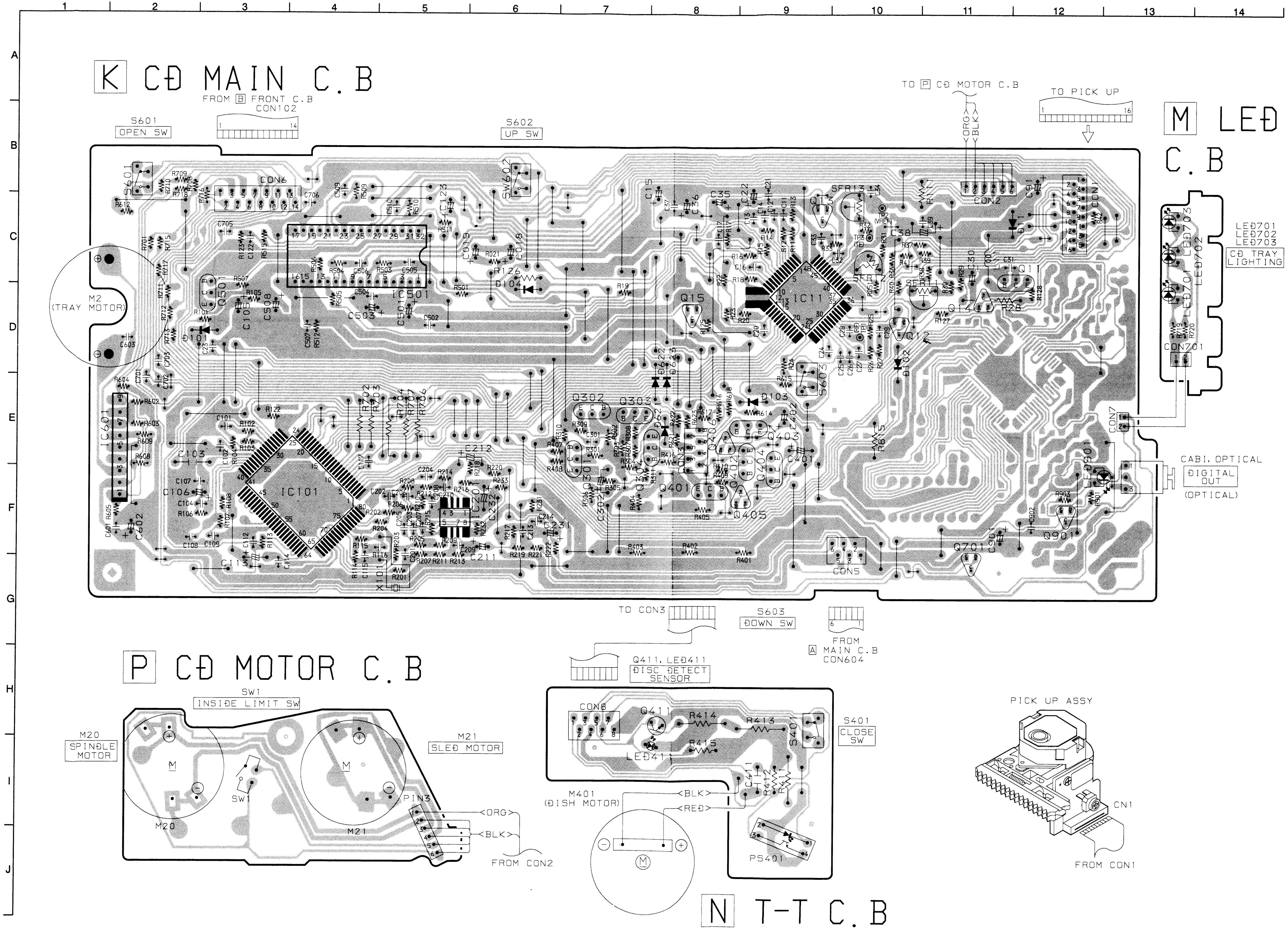
NOTE DIODE NO. MARK IS 1N4148M

ALL TACT SW IS EVQ11G04M

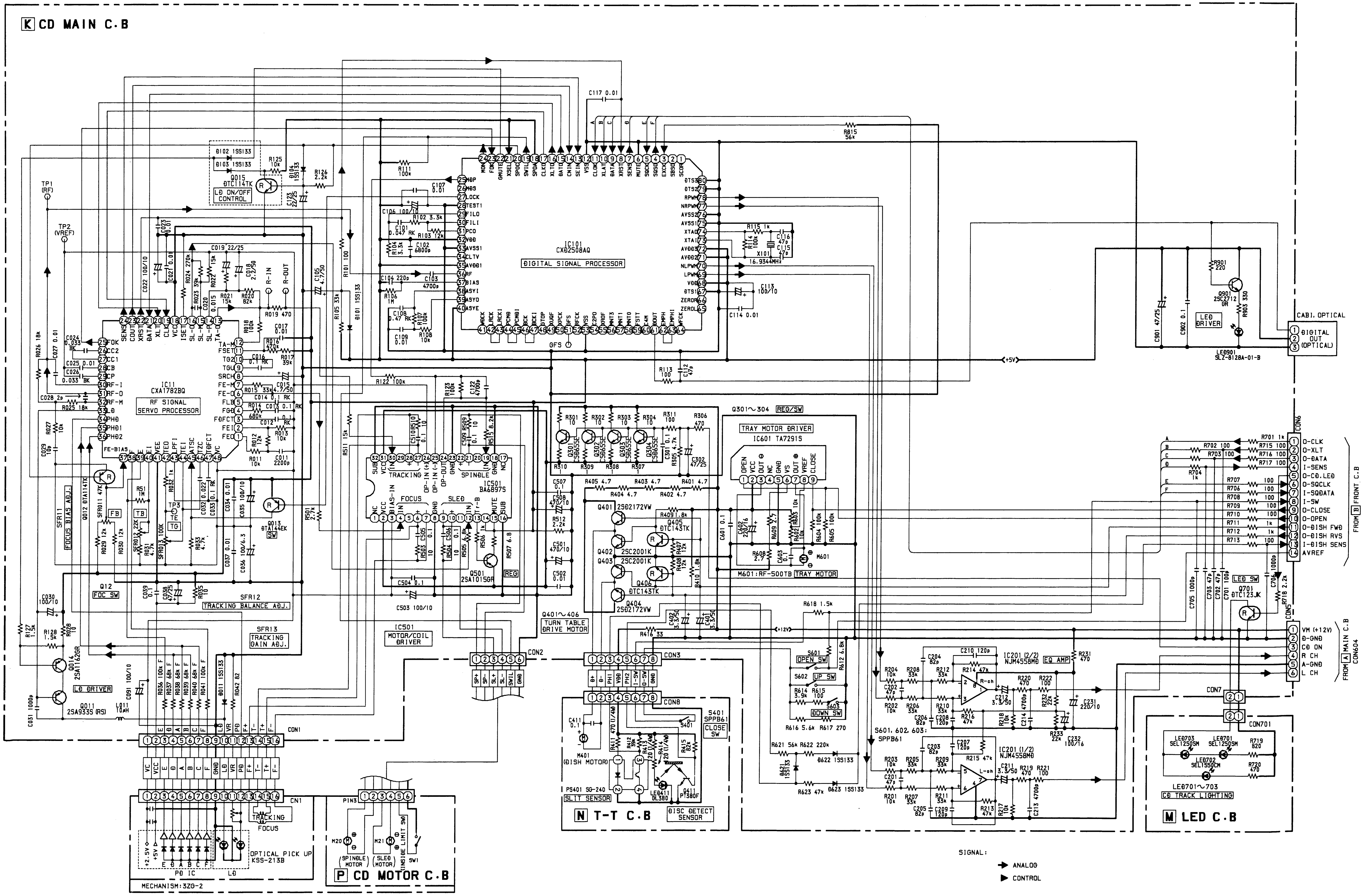
WIRING – 3 (FRONT)


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
C CD SW C.B
W301
CON302
S457
S456
LED451
S451
LED452
LED453
S452
LED454
LED455
S453
LED456
LED457
S454
LED458
LED459
S455
LED460
S457
▲OPEN/CLOSE
S456
DISC CHANGE
LED452, 451
S451
DISC 5
LED454, 453
S452
DISC 4
LED456, 455
S453
DISC 3
LED458, 457
S454
DISC 2
LED460, 459
S455
DISC 1
DISC DIRECT PLAY
TO K CD MAIN C.B CON6
W301
W104
B FRONT C.B
FL301
DISPLAY1
CON301
CON104
FL301
IC201
IC202
IC401
IC801
IC701
IC402
IC403
IC380
IC650
FL302
CON102
CON103
CON105
CON107
CON106
CON501
CON601
FFC106
S334
DEMO
S335
POWER
⏻ STAND BY/ON
TO A MAIN C.B CON700
RED
BLK
LED410, 421, 409
S336
TAPE/DECK 1/2
LED414, 423, 413
S302
TUNER/BAND
LED412, 422, 411
S303
VIDEO/AUX
LED408, 420, 407
S304
CD
FUNCTION
S333
GEQ OFF/ON
FROM A MAIN C.B
S305
ROCK M1
S306
POP M2
S307
JAZZ M3
S308
CLASSIC M4
S309
PRGM/MANUAL
EQUALIZER GRAPHIC
S251
VOLUME
UP⟷DOWN
S339
DSP OFF/ON
DSP
S338
DISC M1
S319
LIVE M2
S314
MOVIE M3
S315
HALL M4
S316
PRGM/MANUAL
W102
D VR C.B
SW252
GEQ/DSP CONTROL
S318
MODE
GEQ/DSP
S317
MEMORY
J621
MIC 2
J601
MIC 1
VR601
MIC MIXING
MAX⟷MIN
TO J DECK C.B
CON502
W501
S322
AG
S323
PTY
S324
RT
EZ ONLY
FL302
DISPLAY 2
S330
CD EDIT/CHECK
S331
REV MODE (DECK 2)
S332
DOLBY NR
S328
● REC/REC MUTE
S329
SYNC DUB (NORM/HIGH)
LED402
TUNING
S313
S312
LED401
▶▶I UP
I◀◀ DOWN
LED405
S310
■CLEAR
LED406
S301
II SET
LED429, 427, 425
DECK2 LIGHT
S320
T-BASS
S321
BBE
LED403, 404
S311
◀▶DIRECTION/PRESET
LED430, 428, 426
DECK1 LIGHT
S326
KARAOKE
S327
MIC ECHO

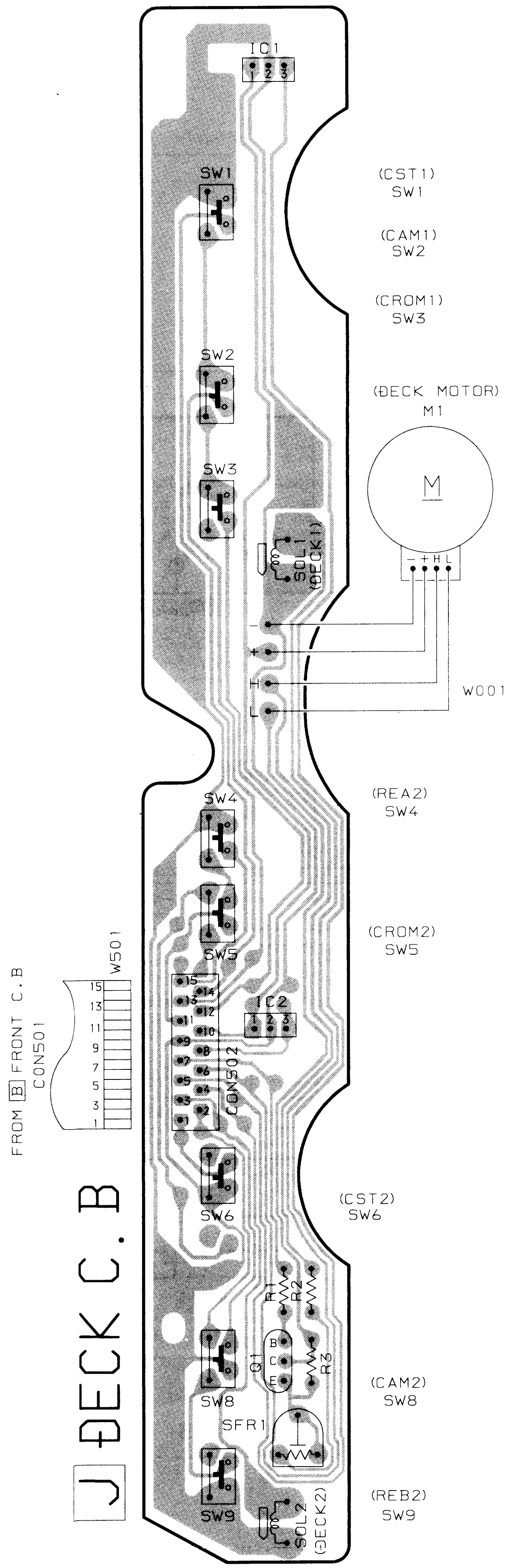
WIRING – 4 (CD)

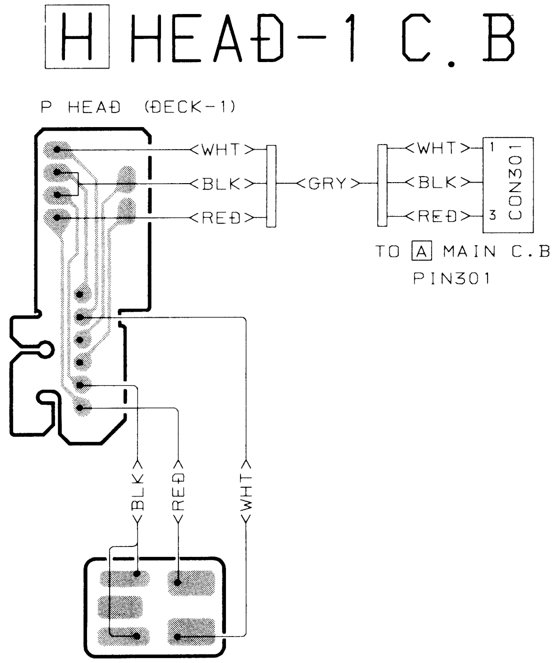

K CD MAIN C.B
FROM B FRONT C.B CON102
S601 OPEN SW
S602 UP SW
TO P CD MOTOR C.B
ORG
BLK
TO PICK UP
M2 (TRAY MOTOR)
IC101
IC11
IC501
IC601
CON1
CON2
CON3
CON5
CON6
CON7
M LED C.B
LED701 LED702 LED703
CD TRAY LIGHTING
CON701
CABI. OPTICAL
DIGITAL OUT
(OPTICAL)
TO CON3
S603 DOWN SW
FROM A MAIN C.B CON604
P CD MOTOR C.B
SW1 INSIDE LIMIT SW
M20 SPINDLE MOTOR
M21 SLED MOTOR
PIN3
ORG
BLK
FROM CON2
Q411, LED411 DISC DETECT SENSOR
CON8
S401 CLOSE SW
M401 (DISH MOTOR)
BLK
RED
PS401
N T-T C.B
PICK UP ASSY
CN1
FROM CON1

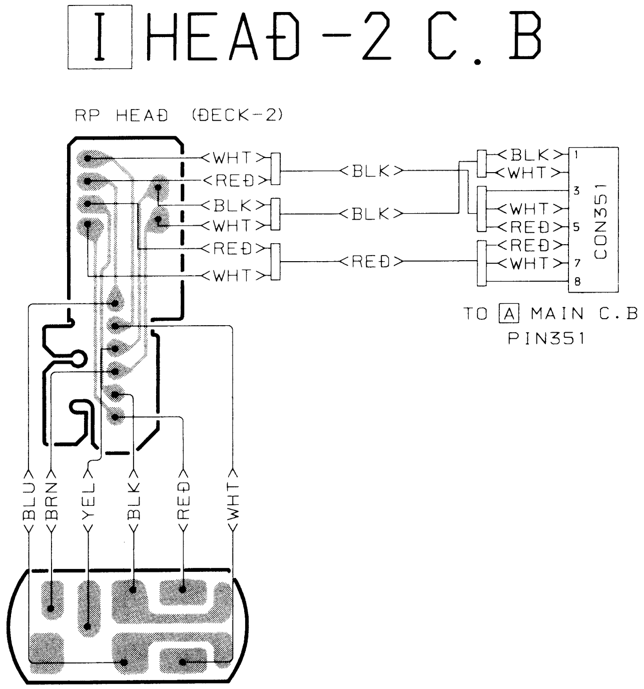
SCHEMATIC DIAGRAM – 4 (CD)


K CD MAIN C.B
IC101 CXD2508AQ
DIGITAL SIGNAL PROCESSOR
IC11 CXA1782BQ
RF SIGNAL SERVO PROCESSOR
IC501 BA6897S
IC501 MOTOR/COIL DRIVER
TRACKING
FOCUS
SPINDLE
SLED
REG
Q015 DTC114TK
LD ON/OFF CONTROL
TP1 (RF)
TP2 (VREF)
SFR11 FOCUS BIAS ADJ.
SFR12 TRACKING BALANCE ADJ.
SFR13 TRACKING GAIN ADJ.
Q12 FOC SW
Q013 DTA144EK SW
Q014 2SA1162GR
Q011 2SA933S (RS)
LD DRIVER
Q301～304 REG/SW
Q401～406 TURN TABLE DRIVE MOTOR
TRAY MOTOR DRIVER
IC601 TA7291S
M601:RF-500TB TRAY MOTOR
X101 16.9344MHz
Q901 2SC2712 GR
LED DRIVER
LED901 SLZ-8128A-01-B
CABI. OPTICAL
DIGITAL OUT (OPTICAL)
CON6
D-CLK
D-XLT
D-DATA
I-SENS
O-CD.LED
O-SQCLK
I-SQDATA
I-SW
O-CLOSE
O-OPEN
O-DISH FWD
O-DISH RVS
I-DISH SENS
AVREF
FROM B FRONT C.B CON102
CON5
VM (+12V)
D-GND
CD ON
R CH
A-GND
L CH
FROM A MAIN C.B CON604
IC201 (2/2) NJM4558MD EQ AMP
IC201 (1/2) NJM4558MD
Q701 DTC123JK
LED SW
CON7
CON701
LED701～703
CD TRACK LIGHTING
M LED C.B
S601 OPEN SW
S602 UP SW
S603 DOWN SW
S601, 602, 603: SPPB61
CON1
CON2
CON3
CON8
CN1
S401 SPPB61 CLOSE SW
M401 (DISH MOTOR)
PS401 SG-240 SLIT SENSOR
LED411 GL380
Q411 PT380F
DISC DETECT SENSOR
N T-T C.B
OPTICAL PICK UP KSS-213B
PD IC
LD
MECHANISM:3ZG-2
M20 (SPINDLE MOTOR)
M21 (SLED MOTOR)
SW1 INSIDE LIMIT SW
P CD MOTOR C.B
SIGNAL:
ANALOG
CONTROL

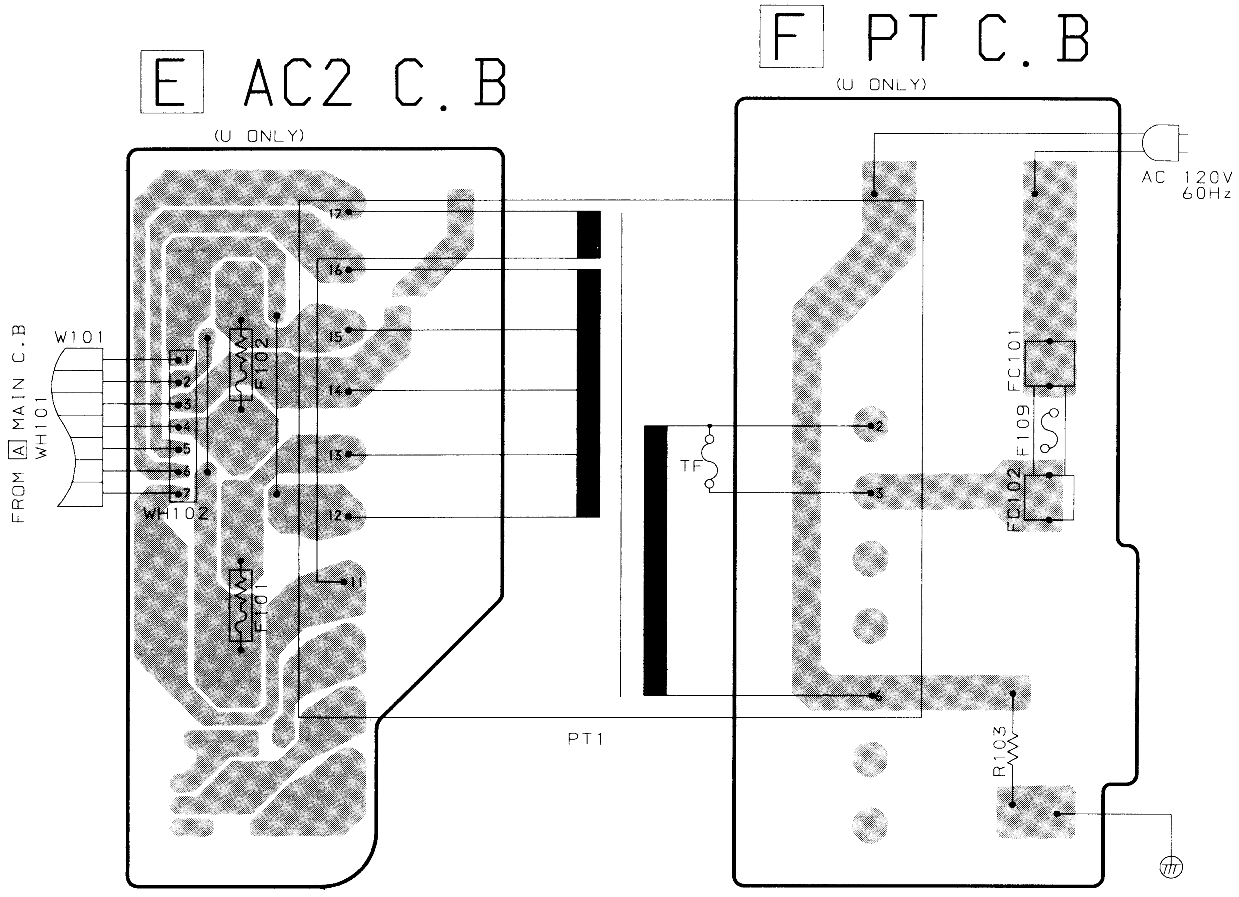
WIRING – 5 (DECK)

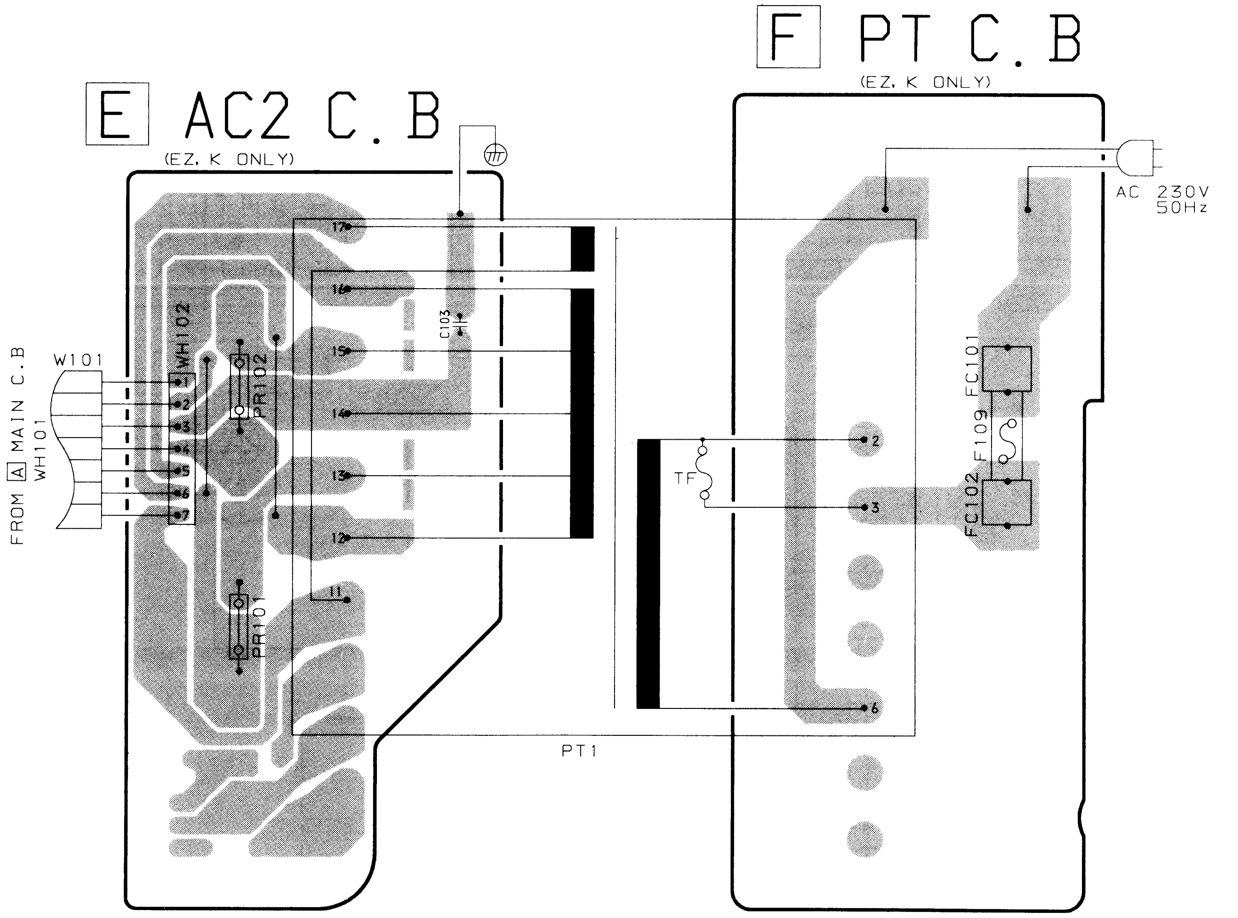

J DECK C.B
IC1
SW1
(CST1) SW1
(CAM1) SW2
(CROM1) SW3
SW2
SW3
(DECK MOTOR) M1
M
– + H L
SOL1 (DECK1)
W001
SW4
(REA2) SW4
SW5
(CROM2) SW5
IC2
CON502
W501
FROM B FRONT C.B CON501
15
13
11
9
7
5
3
1
(CST2) SW6
SW6
R1
R2
R3
Q1
B
C
E
SW8
(CAM2) SW8
SFR1
SW9
(REB2) SW9
SOL2 (DECK2)


H HEAD-1 C.B
P HEAD (DECK-1)
<WHT>
<BLK>
<RED>
<GRY>
<WHT>
<BLK>
<RED>
1
2
3
CON301
TO A MAIN C.B PIN301
<BLK>
<RED>
<WHT>


I HEAD-2 C.B
RP HEAD (DECK-2)
<WHT>
<RED>
<BLK>
<WHT>
<RED>
<WHT>
<BLK>
<BLK>
<RED>
<BLK>
<WHT>
<WHT>
<RED>
<RED>
<WHT>
1
3
5
7
8
CON351
TO A MAIN C.B PIN351
<BLU>
<BRN>
<YEL>
<BLK>
<RED>
<WHT>

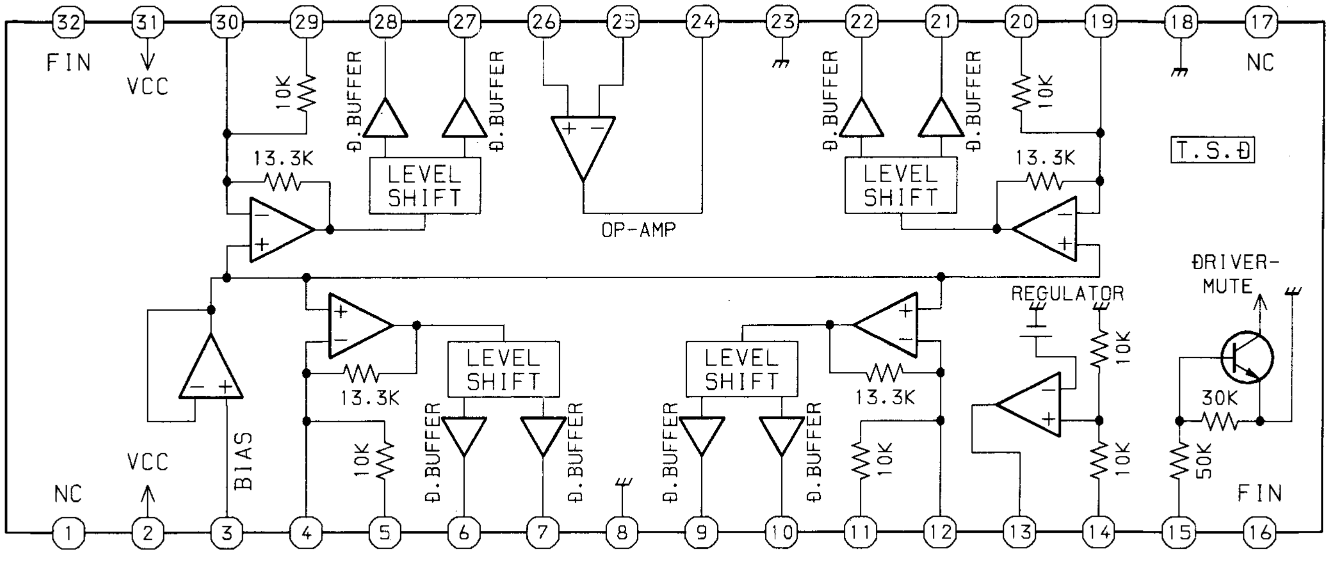
WIRING – 6 (PT)


E AC2 C.B
(U ONLY)
F PT C.B
(U ONLY)
FROM A MAIN C.B WH101
W101
WH102
1
2
3
4
5
6
7
F102
F101
17
16
15
14
13
12
11
TF
2
3
6
PT1
AC 120V 60Hz
FC101
F109
FC102
R103


E AC2 C.B
(EZ, K ONLY)
F PT C.B
(EZ, K ONLY)
FROM A MAIN C.B WH101
W101
WH102
PR102
PR101
C103
17
16
15
14
13
12
11
TF
2
3
6
PT1
AC 230V 50Hz
FC101
F109
FC102

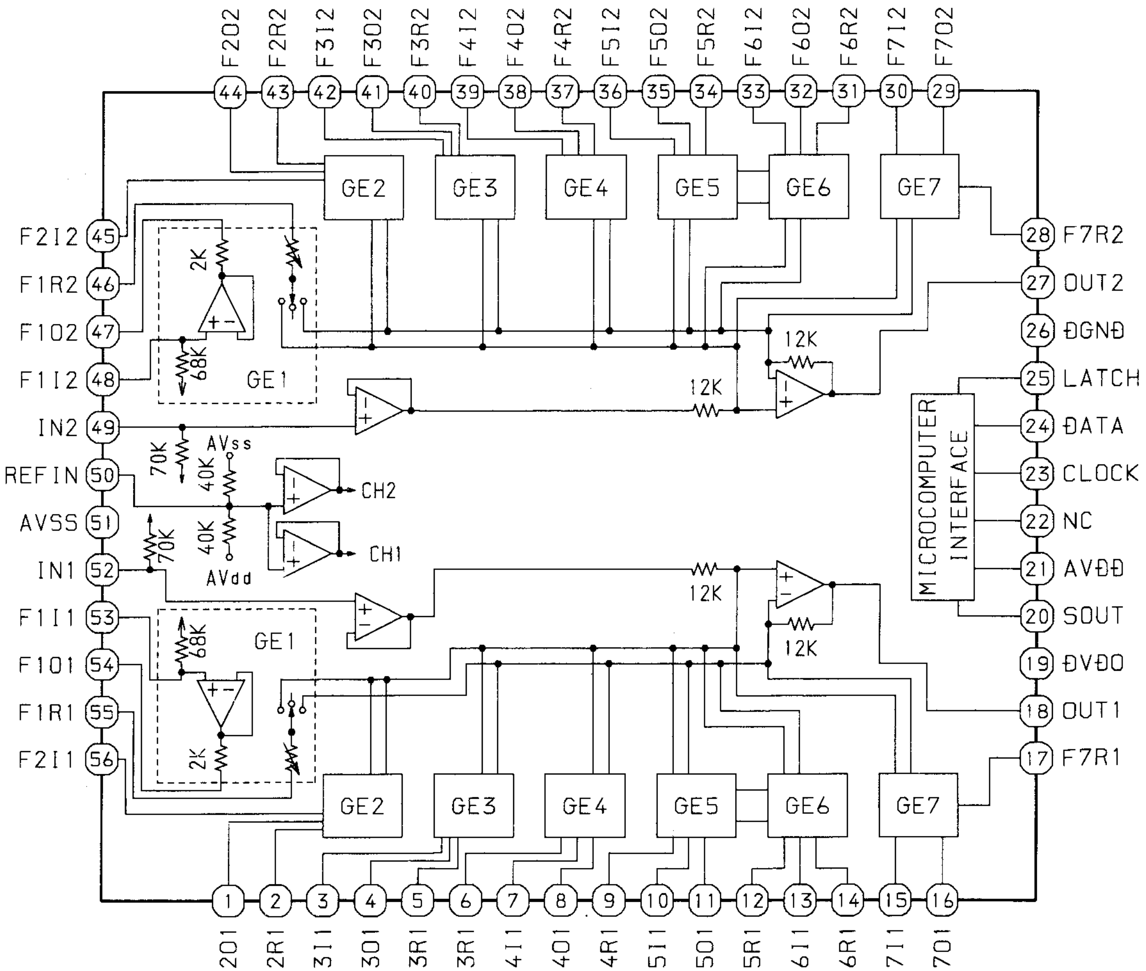
IC BLOCK DIAGRAM – 2

IC, BA6897S

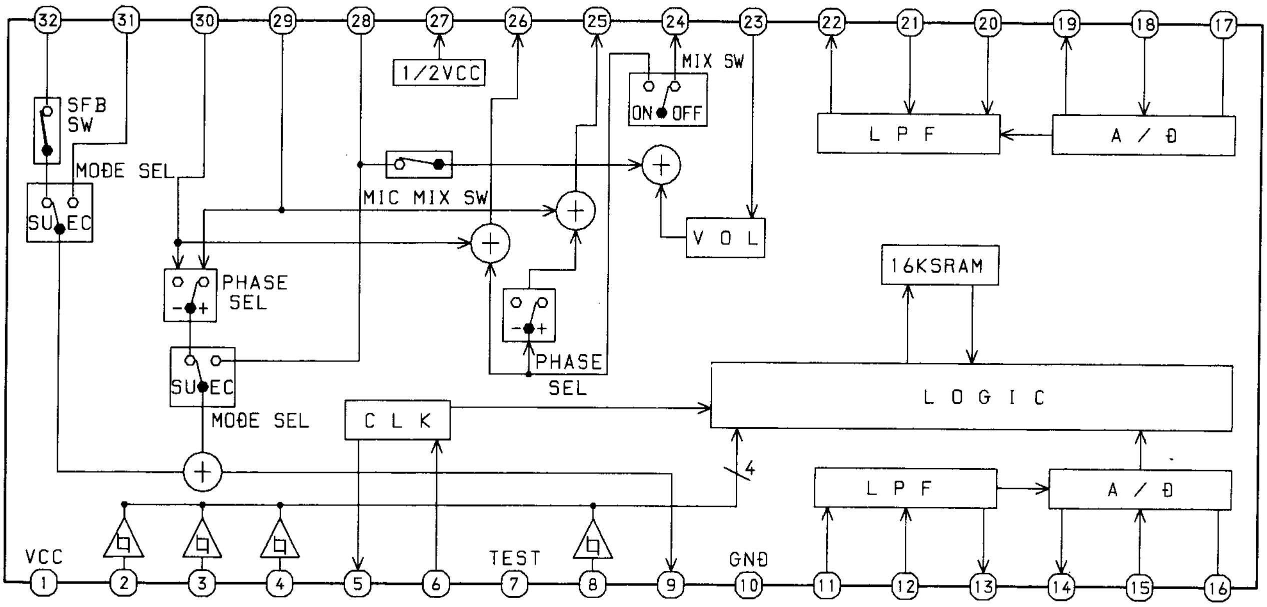

32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
FIN
VCC
NC
10K
D.BUFFER
D.BUFFER
D.BUFFER
D.BUFFER
10K
13.3K
LEVEL SHIFT
LEVEL SHIFT
13.3K
OP-AMP
T.S.D
DRIVER-MUTE
REGULATOR
13.3K
LEVEL SHIFT
LEVEL SHIFT
13.3K
10K
30K
10K
D.BUFFER
D.BUFFER
D.BUFFER
D.BUFFER
10K
10K
50K
VCC
BIAS
NC
FIN
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

T.S.D: THERMAL SHUT DOWN CIRCUIT
D.BUFFER: DRIVE BUFFER

IC, M62431FP

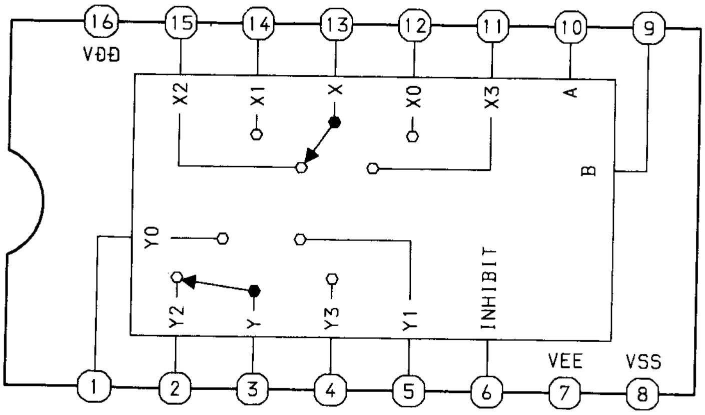

F2O2
F2R2
F3I2
F3O2
F3R2
F4I2
F4O2
F4R2
F5I2
F5O2
F5R2
F6I2
F6O2
F6R2
F7I2
F7O2
44
43
42
41
40
39
38
37
36
35
34
33
32
31
30
29
GE2
GE3
GE4
GE5
GE6
GE7
F2I2 45
F1R2 46
F1O2 47
F1I2 48
IN2 49
REFIN 50
AVSS 51
IN1 52
F1I1 53
F1O1 54
F1R1 55
F2I1 56
2K
68K
GE1
12K
12K
70K
AVss
40K
CH2
40K
70K
CH1
AVdd
12K
12K
68K
GE1
2K
MICROCOMPUTER INTERFACE
28 F7R2
27 OUT2
26 DGND
25 LATCH
24 DATA
23 CLOCK
22 NC
21 AVDD
20 SOUT
19 DVDO
18 OUT1
17 F7R1
GE2
GE3
GE4
GE5
GE6
GE7
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
F2O1
F2R1
F3I1
F3O1
F3R1
F3R1
F4I1
F4O1
F4R1
F5I1
F5O1
F5R1
F6I1
F6R1
F7I1
F7O1

IC, M65849FP



SFB SW
MODE SEL
SU EC
PHASE SEL
SU EC
MODE SEL
1/2VCC
MIX SW
ON OFF
MIC MIX SW
PHASE SEL
V O L
L P F
A / D
16KSRAM
L O G I C
C L K
4
L P F
A / D
VCC
TEST
GND
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

IC, TC4052BP



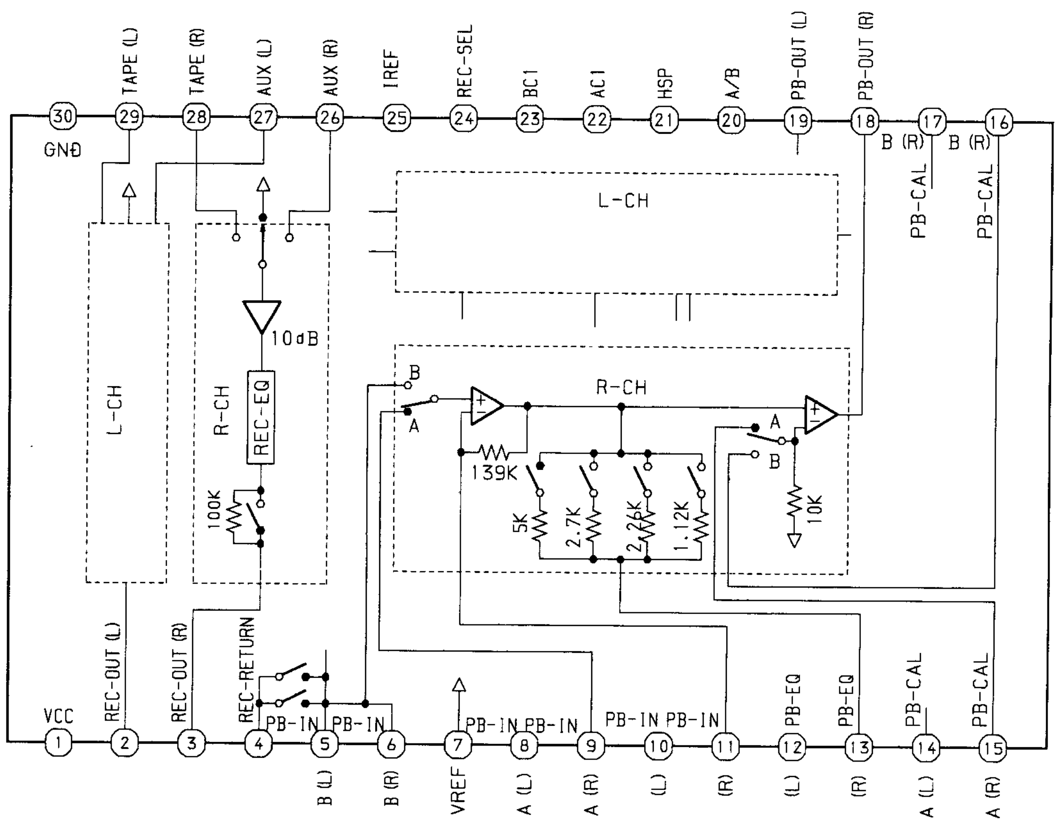
VDD
X2
X1
X
X0
X3
A
B
Y0
Y2
Y
Y3
Y1
INHIBIT
VEE
VSS
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

TRUTH TABLE

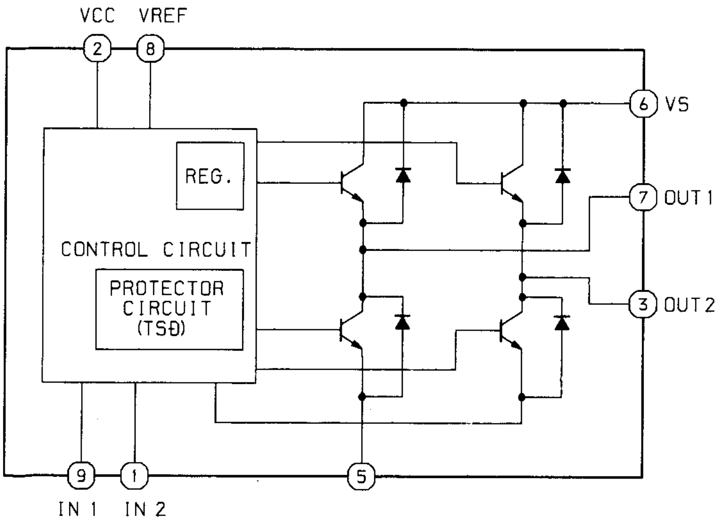
CONTROL INPUTS			ON SWITCH	
INHIBIT	B	A		
L	L	L	Y0	X0
L	L	H	Y1	X1
L	H	L	Y2	X2
L	H	H	Y3	X3
H	X	X′	—	—

L:LOW LEVEL
H:HIGH LEVEL
H:IRRELEVANT

IC, HA12185NT


30
GND
29 TAPE (L)
28 TAPE (R)
27 AUX (L)
26 AUX (R)
25 IREF
24 REC-SEL
23 BC1
22 AC1
21 HSP
20 A/B
19 PB-OUT (L)
18 PB-OUT (R)
17 B (R)
16 B (R)
PB-CAL
PB-CAL
L-CH
L-CH
R-CH
10dB
REC-EQ
100K
R-CH
B
A
139K
5K
2.7K
2.26K
1.12K
A
B
10K
VCC
1
2 REC-OUT (L)
3 REC-OUT (R)
4 REC-RETURN
5 PB-IN B (L)
6 PB-IN B (R)
7 VREF
8 PB-IN A (L)
9 PB-IN A (R)
10 PB-IN (L)
11 PB-IN (R)
12 PB-EQ (L)
13 PB-EQ (R)
14 PB-CAL A (L)
15 PB-CAL A (R)

IC, TA7291


VCC
VREF
2
8
REG.
CONTROL CIRCUIT
PROTECTOR CIRCUIT (TSD)
6 VS
7 OUT1
3 OUT2
9
1
5
IN 1
IN 2

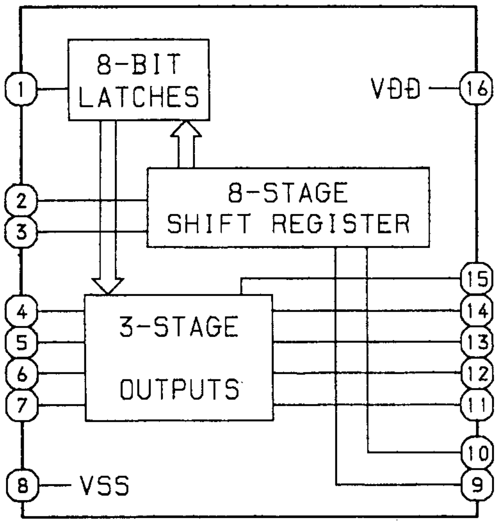
TRUTH TABLE

INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	CW
0	1	L	H	CCW
1	1	L	L	BRAKE

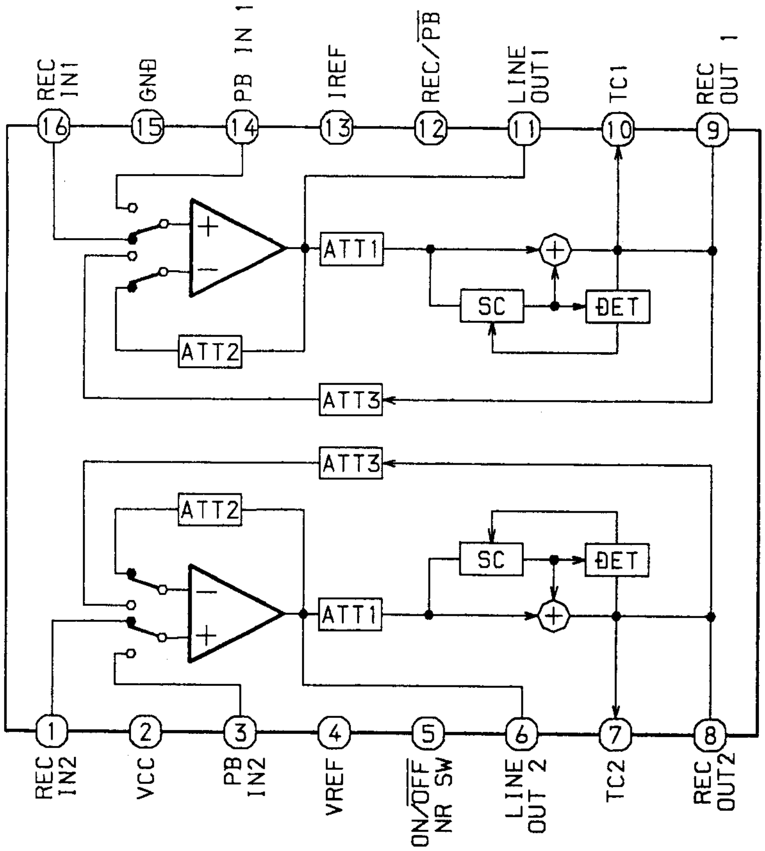
∞ : HI IMPEDANCE

NOTE : INPUT "H" ACTIVE

IC, TC4094BP

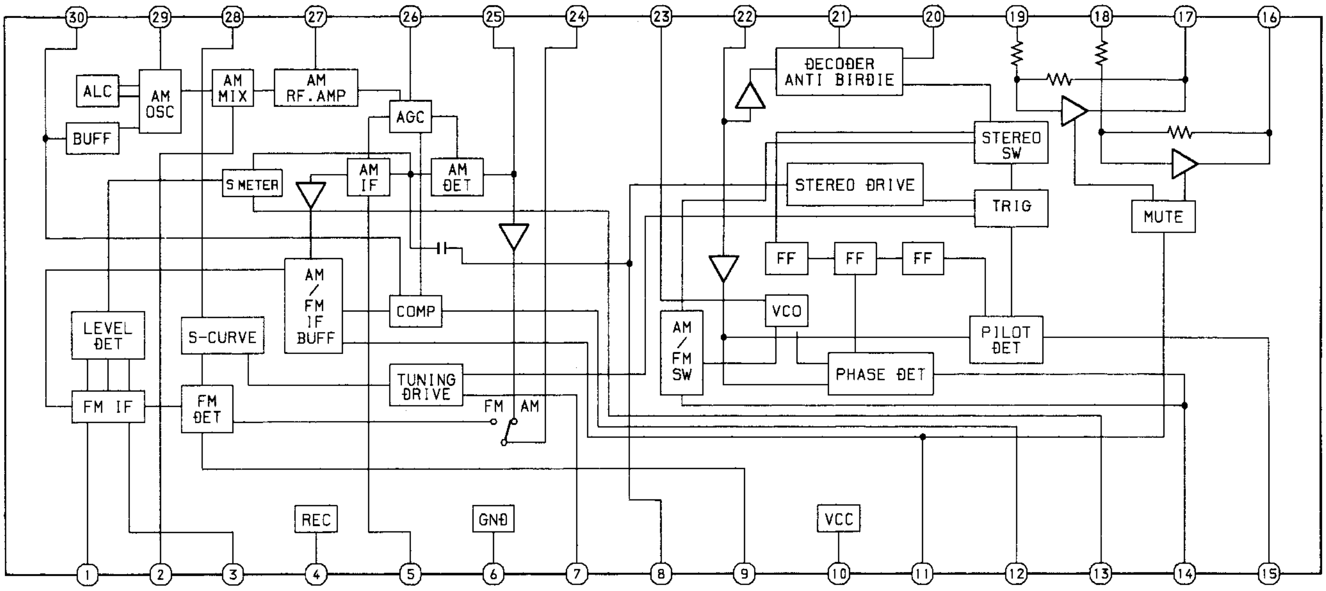

8-BIT LATCHES
VDD
8-STAGE SHIFT REGISTER
3-STAGE OUTPUTS
VSS
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

IC, CXA1553P

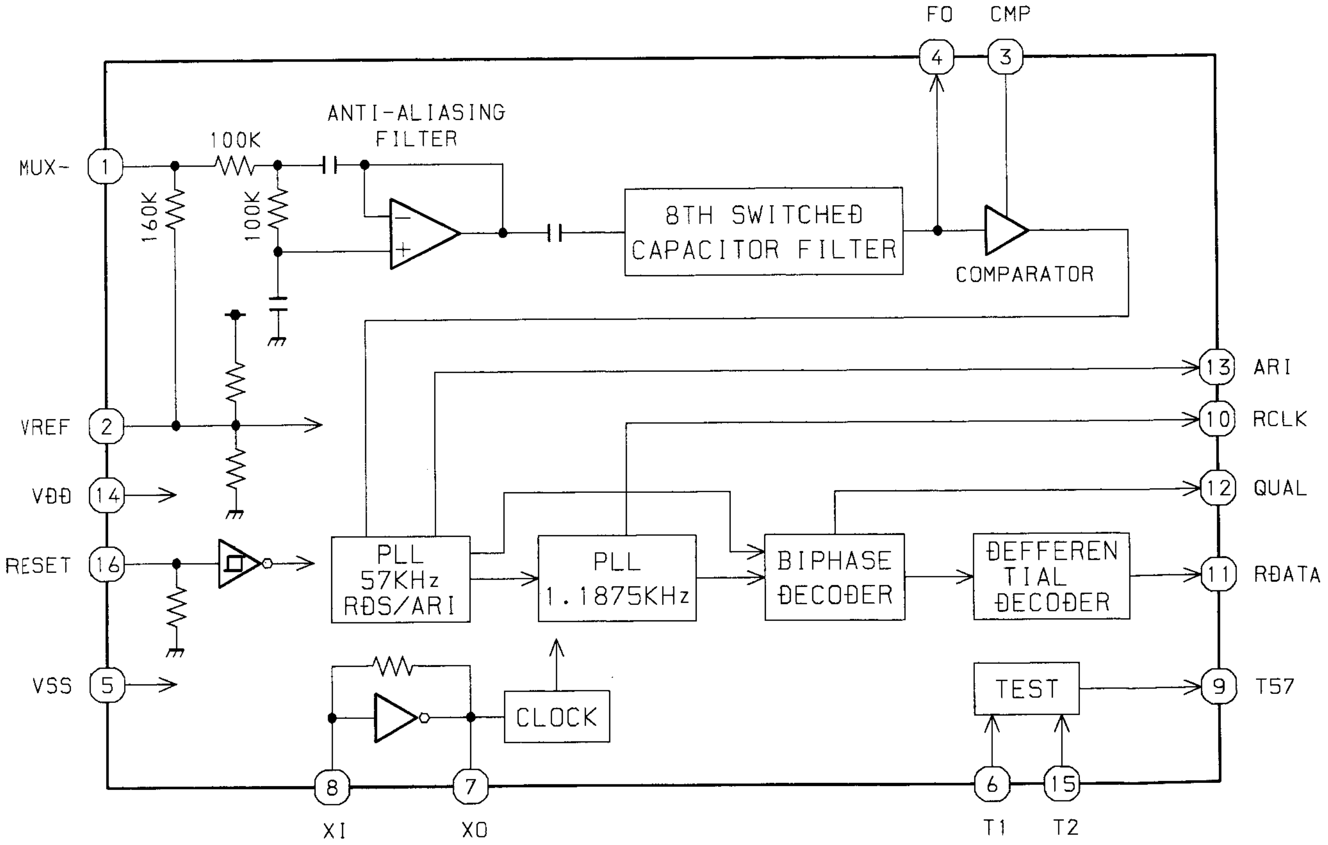

REC IN1
GND
PB IN 1
IREF
REC/$\overline{PB}$
LINE OUT1
TC1
REC OUT 1
16
15
14
13
12
11
10
9
ATT1
SC
DET
ATT2
ATT3
ATT3
ATT2
SC
DET
ATT1
1
2
3
4
5
6
7
8
REC IN2
VCC
PB IN2
VREF
ON/$\overline{OFF}$ NR SW
LINE OUT 2
TC2
REC OUT2

ATT:Attenuator
SC:Side Chain
DET:Detector

IC, LA1836


30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
ALC
AM OSC
BUFF
AM MIX
AM RF.AMP
AGC
AM IF
AM DET
S METER
AM / FM IF BUFF
COMP
LEVEL DET
S-CURVE
FM IF
FM DET
TUNING DRIVE
FM
AM
DECODER ANTI BIRDIE
STEREO SW
STEREO DRIVE
TRIG
MUTE
FF
FF
FF
VCO
PILOT DET
AM / FM SW
PHASE DET
REC
GND
VCC
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

IC, BU1920FS


FO
CMP
4
3
ANTI-ALIASING FILTER
100K
MUX-
1
160K
100K
8TH SWITCHED CAPACITOR FILTER
COMPARATOR
13
ARI
10
RCLK
12
QUAL
11
RDATA
9
T57
VREF
2
VDD
14
RESET
16
VSS
5
PLL 57KHz RDS/ARI
PLL 1.1875KHz
BIPHASE DECODER
DEFFEREN TIAL DECODER
TEST
CLOCK
8
7
6
15
XI
XO
T1
T2

IC DESCRIPTION

IC, CXA1782BQ

Pin No.	Pin Name	I/O	Description
1	FEO	O	Focus error amplifier output pin. This pin is connected to the FZC comparator input internally.
2	FEI	I	Focus error input pin.
3	FDFCT	I	Capacitor connection pin for time constant used when there is defect.
4	FGD	I	Corrects the focus servo high frequency gain.
5	FLB	I	This is a pin where the time constant is externally connected to raise the low frequeny gain of the focus servo.
6	FEO	O	Focus drive output.
7	FEM	I	Focus amplifier inverted input pin.
8	SRCH	I	This is a pin where the time constant is externally connected to generate the focus search waveform.
9	TGU	I	This is a pin where the selection time constant is externally connected to set the tracking servo the high frequency gain.
10	TG2	I	This is a pin where the selection time constant is externally connected to set the tracking high frequency gain.
11	FSET	I	Pin for setting peak of the phase compensator of the focus tracking.
12	TAM	I	Tracking amplifier inverted input pin.
13	TAO	O	Tracking drive output.
14	SLP	I	Sled amplifier non-inverted input pin.
15	SLM	I	Sled amplifier inverted input pin.
16	SLO	O	Sled drove output.
17	ISET	I	The current which determines height of the focus search, track jump and sled kick is input.
18	VCC	-	+5V power supply pin.
19	CLK	I	Serial data transfer clock input from CPU (CXD2518Q).
20	XLT	I	Latch input from CPU (CXD2518Q).
21	DATA	I	Serial data input from CPU (CXD2518Q).
22	XRST	I	Reset input pin. Reset at L.
23	COUT	O	Signal output to count the number of tracks.
24	SENS	O	FZC, DFCT, TZC, Gain or BAL is output depending on the command to CPU (CXD2518Q).
25	FOK	O	Output pin of the focus OK comparator.
26	CC2	O	Input pin where the DEFECT bottom hold output is capacitance coupled.
27	CC1	I	DEFECT bottom hold output pin.
28	CB	I	This is a pin where the DEFECT bottom hold capacitor is connected.
29	CP	I	This is a pin where the MIRR hold capacitor is connected and MIRR comparator non-inverted signal is input.
30	RFI	I	Input pin where the RF summing amplifier output is capacitance coupled.
31	RFO	O	RF summing amplifier output pin. (TP1)
32	RFM	I	RF summing amplifier inverted input pin. Gain of RF amplifier is determined by the resistor connected between RFO and this pin.

Pin No.	Pin Name	I/O	Description
33	LD	O	APC amplifier output pin.
34	PHD	I	APC amplifier input pin.
35~36	PHD1~2	I	RF I-V amplifier inverted input pin. These pins are connected to the A+C and B+D pins of the optical pickup.
37	BIAS	I	Bias adjustment pin of the non-inverted side of the focus error amplifier.
38~39	F-E	I	F and E IV amplifier non-inverted input pins. These pins are connected to the F and E of the optical pickup.
40	EI	-	Gain adjustment pin of the I-V amplifier E.
41	VEE	-	GND connection pin.
42	TEO	O	Tracking error amplifier output pin.
43	LPFI	I	BAL adjustment comparator input pin.
44	TEI	I	Tracking error input pin.
45	ATSC	I	Window comparator input pin for detecting ATSC.
46	TZC	I	Tracking zero-cross comparator imput pin.
47	TDFCT	I	Capacitor connection pin for the time constant used when there is defect.
48	VC	O	DC voltage output pin of VREF. (VDD/2)

IC, CDX2508AQ

Pin No.	Pin Name	I/O	Description
1	SCOR	O	Outputs a high signal when either subcode sync S0 or S1 is detected.
2	SBSO	O	Sub P to W serial output.
3	EXCK	I	SBSO readout clock input.
4	SQSO	O	Sub Q 80-bit serial output.
5	SQCK	I	SQSO readout clock input.
6	MUTE	I	High: mute; low: release.
7	SENS	O	SENS output to CPU.
8	XRST	I	System reset. Reset when low.
9	DATA	I	Serial data input from CPU.
10	XLAT	I	Latch input from CPU. Serial data is latched at the falling edge.
11	CLOK	I	Serial data transfer clock input from CPU.
12	VSS	–	GND.
13	SEIN	I	Sense input from SSP.
14	CNIN	I	Track jump count signal input.
15	DATO	O	Serial data output to SSP.
16	XLTO	O	Serial data latch output to SSP. Latched at the falling edge.
17	CLKO	O	Serial data transfer clock output to SSP.
18	SPOA	I	Microcomputer extended interface (input A).
19	SPOB	I	Microcomputer extended interface (input B).
20	SPOC	I	Microcomputer extended interface (input C).
21	XTSL	I	Crystal selection input. Low for 16.9344MHz; high for 33.8688MHz.
22	XLON	O	Microcomputer extended interface (output).
23	FOK	I	Focus OK input. Used for SENS output and the servo auto sequencer.

Pin No.	Pin Name	I/O	Description
24	MON	O	Spindle motor on/off control output.
25	MDP	O	Spindle motor servo control.
26	MDS	O	Spindle motor servo control.
27	LOCK	O	GFS is sampled at 460Hz; when GFS is high, this pin outputs a high signal. If GFS is low eight consecutive samples, this pin outputs low.
28	TEST	I	TEST pin. Normally GND.
29	FILO	O	Master PLL (slave=digital PLL) filter output.
30	FILI	I	Master PLL filter input.
31	PCO	O	Master PLL charge pump output.
32	VDD	-	Digital power supply for DSP.
33	AVSS1	-	Analog GND for DSP.
34	CLTV	I	Master PLL VCO control voltage input.
35	AVDD1	-	Analog power supply for DSP.
36	RF	I	EFM signal input.
37	BIAS	I	Constant current input of asymmetry compensation circuit.
38	ASYI	I	Comparator voltage input of asymmetry compensation circuit.
39	ASYO	O	EFM full-swing output (low=VSS, high=VDD).
40	ASYE	I	Low: asymmetry compensation off; high: asymmetry compensation on.
41	WDCK	O	D/A interface for 48-bit slot. Word clock (2Fs).
42	LRCK	O	D/A interface for 48-bit slot. LR clock (Fs).
43	LRCKI	I	LR clock input for DAC. (48-bit slot)
44	PCMD	O	D/A interface. Serial data (two's complement, MSB first).
45	PCMDI	I	Audio data input for DAC. (48-bit slot)
46	BCK	O	D/A interface. Bit clock.
47	BCKI	I	Bit clock input for DAC. (48-bit slot)
48	GTOP	O	CTOP output.
49	XUGF	O	XUGF output.
50	XPCK	O	XPLCK output.
51	GFS	O	GFS output.
52	RFCK	O	RFCK output.
53	VSS	-	GND.
54	C2PO	O	C2PO output.
55	XROF	O	ARAOF output.
56	MNT3	O	MNT3 output.
57	MNT1	O	MNT1 output.
58	MNT0	O	MNT0 output.
59	FSTT	O	2/3 frequency-divider output for Pins 73 and 74.
60	C4M	O	4.2336MHz output.
61	DOUT	O	Digital Out output.
62	EMPH	O	Outputs high signal when the playback disc has emphasis, low signal when no emphasis.
63	EMPHI	I	DAC de-emphasis on/off. High: on; low: off.

Pin No.	Pin Name	I/O	Description
64	WFCK	O	WFCK (write frame clock) output.
65	ZEROL	O	No-sound data detection output; high when no sound data is detected. (Left channel)
66	ZEROR	O	No-sound data detection output; high when no sound data is detected. (Right channel)
67	DTS1	I	Test pin 1 for DAC; normally low.
68	VDD	-	Digital power supply for DAC.
69	NLPWM	O	Left channel PWM output. (Reverse phase)
70	LPWM	O	Left channel PWM output. (Forward phase)
71	AVDD2	-	Power supply for left channel PWM driver.
72	AVDD3	-	Power supply for crystal.
73	XTAI	I	33.8688MHz crystal oscillation circuit input.
74	XTAO	O	33.8688MHz crystal oscillation circuit output.
75	AVSS3	-	GND for crystal.
76	AVSS2	-	GND for PWM driver.
77	NRPWM	O	Right channel PWM output. (Reverse phase)
78	RPWM	O	Right channel PWM output. (Forward phase)
79	DTS2	I	DAC test pin 2; normally low.
80	DTS3	I	DAC test pin 3; normally low.

IC, UPD780206GF-014-3BA / IC,UPD780208GF-011-3BA

Pin No.	Pin Name	I/O	Description
1	VDD	–	Power supply input.
2	O-CLOSE	O	CD tray close data output.
3	O-OPEN	O	CD tray open data output.
4	O-DI/R	O	CD turntable reverse rotation output.
5	O-DI/F	O	CD turntable forward rotation output.
6	O-MOTOR	O	Deck motor output.
7	O-SOL2	O	DECK2 solenoid output (DECK2).
8	O-SOL1	O	DECK1 solenoid output (DECK1).
9	O-SW SCAN	O	Switch scan timing output.
10	RESET	I	Reset input.
11,12	X1,X2	I/O	4.19MHz oscillator circuit.
13	VSS	–	GND.
14	XT2	–	N.C.
15	HOLD	I	Power failure detected input "L"to stop lock and maintain memory.
16	VDD	–	Power supply input.
17	DATA (CD)	O	DATA(CD) output.
18	O-XLT(CD)	O	XLT(CD) output.
19	O-CLK(CD)	O	CLOCK (CD) output.
20	I-MS	I	Deck music sensor signal input.

Pin No.	Pin Name	I/O	Description
21	O-SUBQ CLK(CD) /I-TUNER/IFC	I/O	SUBQ CLOCK(CD) output /tuner SD detected input. IF count serial data input.
22	O-M/STB	O	Main shift register data latch strobe output.
23	O-F/STB	O	Front shift register data latch strobe output.
24	O-MUTE	O	System mute output.
25	VSS	–	GND.
26	I-KEY3	I	Key input 3 (A/D).
27	I-DI-SENS	I	CD turntable photo sensor A/D converter input.
28	NC	–	Not used.
29	I-CD/SW	I	CD mechanical switch A/D converter input.
30	I-SPEANA	I	A/D input for spectrum analyzer display.
31	I-MIC	I	Microphone input for auto V/F display.
32	I-KEY2	I	Key input 2 (A/D).
33	I-KEY1	I	Key input 1 (A/D).
34	VDD	–	Power supply input.
35	A VREF	I	A/D Reference voltage input.
36	I/O E.VR	I/O	I ^{2}C Bus data for electrical voltage.
37	SENS/I-STEREO	I	CD.SENS input/tuner stereo detected input.
38	I-SUBQ DATA	I	CD.SUB-Q input.
39	I-RMC	I	System remote control signal input.
40	VSS	–	GND.
41	O-M/CLK	O	Main shift register, PLL/KEY CONTROL/DSP related clock.
42	O-M/DATA	O	Main shift register, PLL/KEY CONTROL/DSP related data output.
43	O-F/CLK	O	Front shift register,data transfer clock output.
44	O-F/DATA	O	Front shift register,data output.
45	O-POWER	O	Power on signal output.
46	VDD	–	Power supply input.
47	O-GE LATCH	O	G.E data latch strobe output.
48	O-PLL CE	O	PLL IC chip enable.
49	S40/I-H.PHONE	I/O	FL segment output S40, head phone switch data input.
50	S39/I-KCON	I /O	FL segment output S39, key con mode data input to diode.
51	S38/I-NTSC/PAL	I /O	FL segment output S38, NTSC/PAL mode data input to diode.
52	S37/I-TU2	I /O	FL segment output S37, tuner model select mode DATA2 input to diode.
53	S36/I-TU1	I/O	FL segment output S36, tuner model select mode DATA1 input to diode.
54	S35/I-TMBASE	I/O	FL segment output S35, reference clock input for timer watch.
55	S34/I-REA	I/O	FL segment output S34, DECK2 side-A record OK switch data input.
56	S33/I-CST1	I/O	FL segment output S33, DECK1 cassette detect switch data input.
57	S32/I-CAM1	I/O	FL segment output S32, DECK1 cam switch data input.
58	S31/I-AUTO2	I/O	FL segment output S31, DECK2 auto stop signal input.
59	S30/I-AUTO1	I/O	FL segment output S30, DECK1 auto stop signal input.
60	S29/I-CAM2	I/O	FL segment output S29, DECK2 cam switch data input.

Pin No.	Pin Name	I/O	Description
61	S28/I-REB	I/O	FL segment output S28, DECK2 side-B record OK switch data input.
62	S27/I-CST2	I/O	FL segment output S27, DECK2 cassette detect switch data input.
63	S26/O-KSCAN5	O	FL segment output S26, key scan 5 output.
64	S25/O-KSCAN4	O	FL segment output S25, key scan 4 output.
65	S24/O-KSCAN2	O	FL segment output S24, key scan 2 output.
66	S23/O-KSCAN3	O	FL segment output S23, key scan 3 output.
67	S22/O-KSCAN1	O	FL segment output S22, key scan 1 output.
68	21/O-SPEANA.A	O	FL segment output S21, SPEANA band changing A output.
69	S20/O-SPEANA.B	O	FL segment output S20, SPEANA band changing B output.
70	S19/O-SPEANA.C	O	FL segment output S19, SPEANA band changing C output.
71~78	S18-S11	O	FL segment output S18~S11.
79	VP	-	Power supply input for FL display.
80~89	S10~S1	O	FL segment output S10~S1.
90~100	G11~G1	O	FL grid output G11~G1.

NOTE : For IC,UPD780208GF-011-3BA<EZ>, the Pin No, Pin name and Description are same with IC,UPD780206GF-014-3BA, except Pin No.18, 28, 38.

Pin No.	Pin Name	I/O	Description
18	O-XLT (CD)/I-RDDA	I/O	XLT (CD) output/RDS data input (Tuner).
28	I-RD SG	I	RDS signal input (Tuner).
38	I-SUBQ DATA /I-RDS CLK	I	CD SUB-Q input/RDS CLK input (Tuner).

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity : (THD 3%)	5dB ± 6dB [at 87.5 / 98.0 MHz (EZ,K)] 7dB ± 6dB [108.0MHz (EZ,K)] 3dB ± 6dB [at 87.5 / 98.0 / 108.0MHz (U)]
S/N 46dB Quieting sensitivity :	34dB ± 6dB [at 87.5 / 98.0 / 108.0MHz (EZ,K)]
S/N 50dB Quieting sensitivity :	Less than 36dB [at 87.5 / 98.0 / 108.0MHz (U)]
Signal to noise ratio :	Mono : More than 60dB (EZ,K) More than 67dB (U) [at 98.0MHz] Stereo : More than 57dB (EZ,K) More than 64dB (U) [at 98.0MHz]
Distortion :	Mono : Less than 1.3% [at 98.0MHz] Stereo : Less than 2.0% [at 98.0MHz]
Auto stop level :	30dB ± 5dB (EZ) 20dB ± 5dB (K,U) [at 98.0MHz]
Stereo separation :	More than 20dB (EZ,K) More than 25dB (U) [at 98.0MHz]
Intermediate frequency :	10.7MHz

<AM(MW) SECTION>

Sensitivity : (S/N 20 dB)	52 ~ 62dB [at 603kHz (EZ,K)] [at 600kHz (U)] 48 ~ 58dB [at 999kHz (EZ,K)] [at 1000kHz (U)] 48 ~ 58dB [at 1404kHz (EZ,K)] [at 1400kHz (U)]
Signal to noise ratio :	More than 36dB [at 999kHz (EZ,K)] [at 1000kHz (U)]
Distortion :	Less than 1.5% [at 999kHz (EZ,K)] [at 1000kHz (U)]
Auto stop level :	53dB ± 13dB [at 999kHz (EZ,K)] [at 1000kHz (U)]
Intermediate frequency :	450kHz

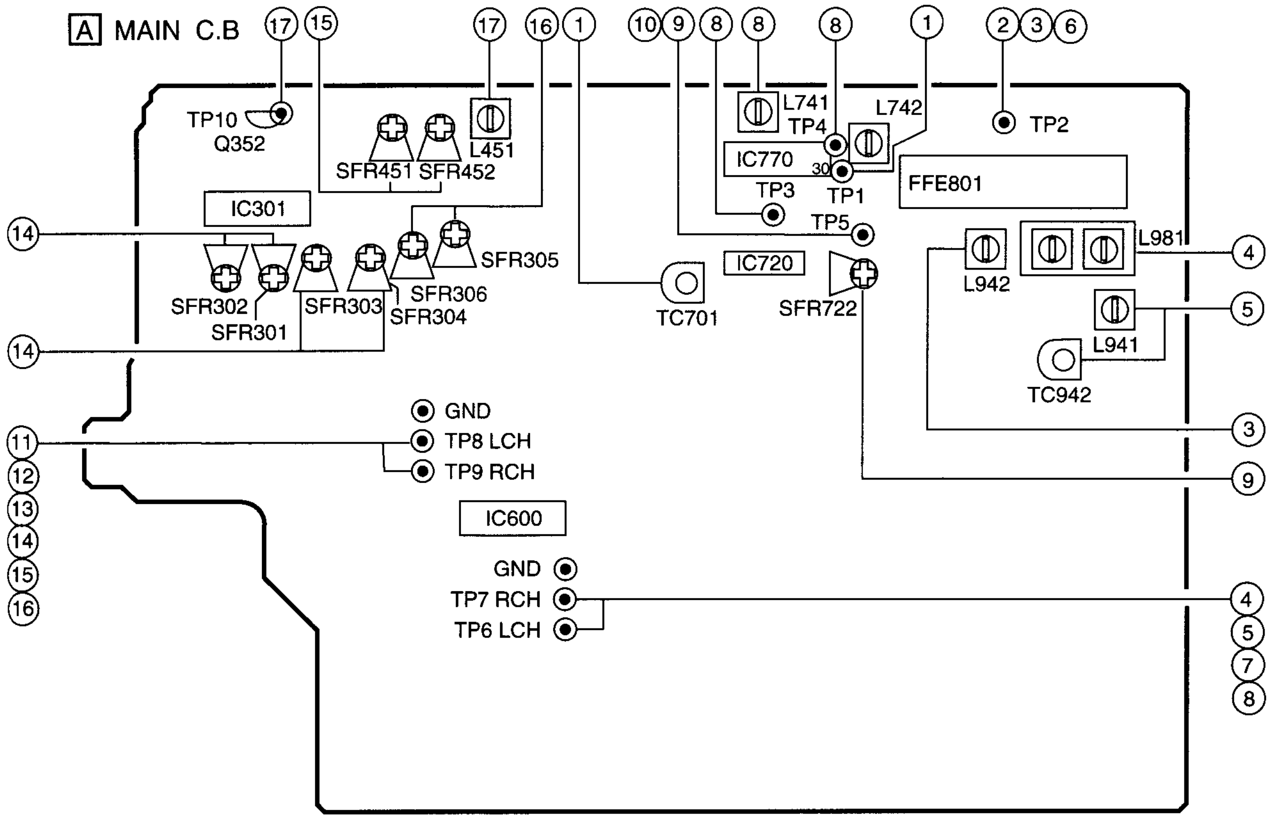
<LW SECTION>(EZ,K)

Sensitivity : (S/N 20dB)	59 ~ 69dB [144kHz] 57 ~ 67dB [198kHz] 55 ~ 65dB [290kHz]
Signal to noise ratio :	More than 36dB
Distortion :	Less than 1.4% [198kHz]
Auto stop level :	46dB ~ 71dB
Intermediate frequency :	450kHz

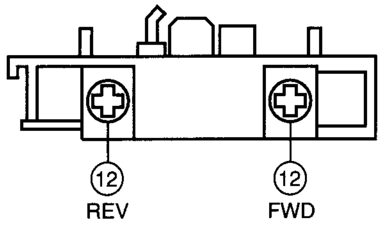
<DECK SECTION>

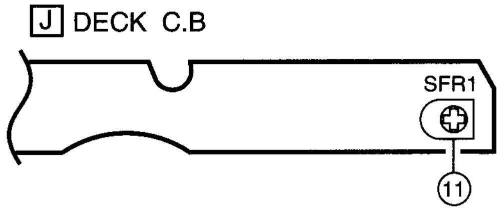
Tape speed :	3000Hz ± 45Hz
Wow & flutter :	Less than 0.21% (W.R.M.S)
Take-up torque :	30 ~ 55g-cm (FWD, REV)
F.F & REW torque :	75 ~ 160g-cm
Back tension :	2 ~ 7g-cm (FWD, REV)
PB output level :	300mV± 1dB (SP OUT 2V)
REC/PB output level :	180mV ± 1dB (SP OUT 2V)
Distortion (REC/PB) :	Less than 2.0% (NORM, CrO_2)
Noise level (PB) :	Less than 1.8mV (NORM, SP OUT 2V, DOLBY OFF) Less than 1.1mV (CrO_2, SP OUT 2V, DOLBY ON B,C)
Noise level (REC/PB) :	Less than 2.0mV (NORM, SP OUT 2V, DOLBY OFF) Less than 1.2mV (CrO_2, SP OUT 2V, DOLBY ON B,C)
Crosstalk :	More than 60dB (1kHz, 0VU)
Channel separation :	More than 30dB (1kHz, 0VU)
Erasing ratio :	More than 60dB (at 125Hz, 10VU)
Test tape :	TTA-602 (NORMAL) TTA-615 (CrO_2)

ADJUSTMENT - 1 <TUNER / DECK>



DECK–1 P, DECK–2 R / P / E HEAD





< TUNER SECTION >

1. Clock Frequency Adjustment
   Settings : • Test point : TP1 (CLK IC770 pin30)
   • Adjustment location : TC701
   Method : Set to MW 1710kHz (U),1602kHz (EZ,K) and adjust TC701 so that the test point becomes 2160kHz ± 0.01kHz (U), 2052 ± 0.01kHz (EZ,K).

2. MW VT Check
   Settings : • Test point : TP2 (VT)
   Method : Set to MW 1710kHz (U), 1602kHz (EZ,K) and check that the test point is less than 8.0V (U), 7.5V(EZ,K).

3. LW VT Adjustment <EZ,K>
   Settings : • Test point : TP2 (VT)
   • Adjustment location : L942
   Method : Set to LW 144kHz and adjust L942 so that the test point becomes 1.3V ± 0.05V.

4. MW Tracking Adjustment
   Settings : • Test point : TP6, TP7
   • Adjustment location : L981
   Method : Set to MW 1000kHz (U), 999kHz (EZ,K) and adjust L981 so that the test point becomes maximum.

5. LW Tracking Adjustment <EZ,K>
   Settings : • Test point : TP6, TP7
   • Adjustment location :
   L941 .... 144kHz
   TC942 .... 290kHz
   Method : Set up TC942 to center before adjustment. The level at 144kHz is adjusted to MAX by L941. Then the level at 290kHz is adjusted to MAX by TC942.

6. FM VT Check
   Settings : • Test point : TP2 (VT)
   Method : Set to FM 87.5MHz, 108.0MHz and check that the test point is more than 1.0V(U), 1.5V (EZ,K) (87.5MHz) and less than 8.0V(U), 8.2V(EZ,K) (108.0MHz).

7. FM Tracking Check
   Settings : • Test point : TP6, TP7
   Method : Set to FM 98.0MHz and check that the test point is 2 ± 6dB (U), 6 ± 6dB (EZ,K).

8. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP3, TP4 (DC balance)
   TP6, TP7 (Distortion)
   • Adjustment location : L741
   • Input level : 54dB
   Method : Set to FM 98.0MHz and adjust L741 so that the voltage between TP3 and TP4 becomes 0V ± 0.04V. Next, check that the distortion is less than 1.3%.

9. Auto Stop Level Adjustment
   Settings : • Test point : TP5
   • Adjustment location : SFR722
   • Input level : 18dB (K,U)
   25dB (EZ)
   Method : Set to FM 98.0 MHz and adjust voltage low (about 0.01V) by SFR722. After that voltage high (about 7.0V) by 2dB (K,U),4dB (EZ) down.

10. Auto Stop Level Check

    MW
    Settings : • Test point : TP5
    • Input level : 50dB
    Method : Set to MW 1000kHz (U), MW 999kHz (EZ,K) and check that the test point is 40 ~ 65dB.

    FM
    Settings : • Test point : TP5
    • Input level : 18dB
    Method : Set to FM 98.0MHz and check that the test point is 20dB ± 5dB (U,K), 30dB ± 4dB (EZ).

< DECK SECTION >

11. Tape Speed Adjustment
    Settings : • Test tape : TTA–100
    • Test point : TP8, TP9
    • Adjustment location : SFR1
    Method : Play back the test tape and adjust SFR1 so that the frequency counter reads 3000Hz ± 5Hz.

12. Head Azimuth Adjustment
    Settings : • Test tape : TTA–300
    • Test point : TP8, TP9
    • Adjustment location : Head azimuth adjustment screw
    Method : Play back the 10kHz signal of the test tape and adjust screw so that the output becomes maximum. Next,perform on each FWD and REV PLAYmode.

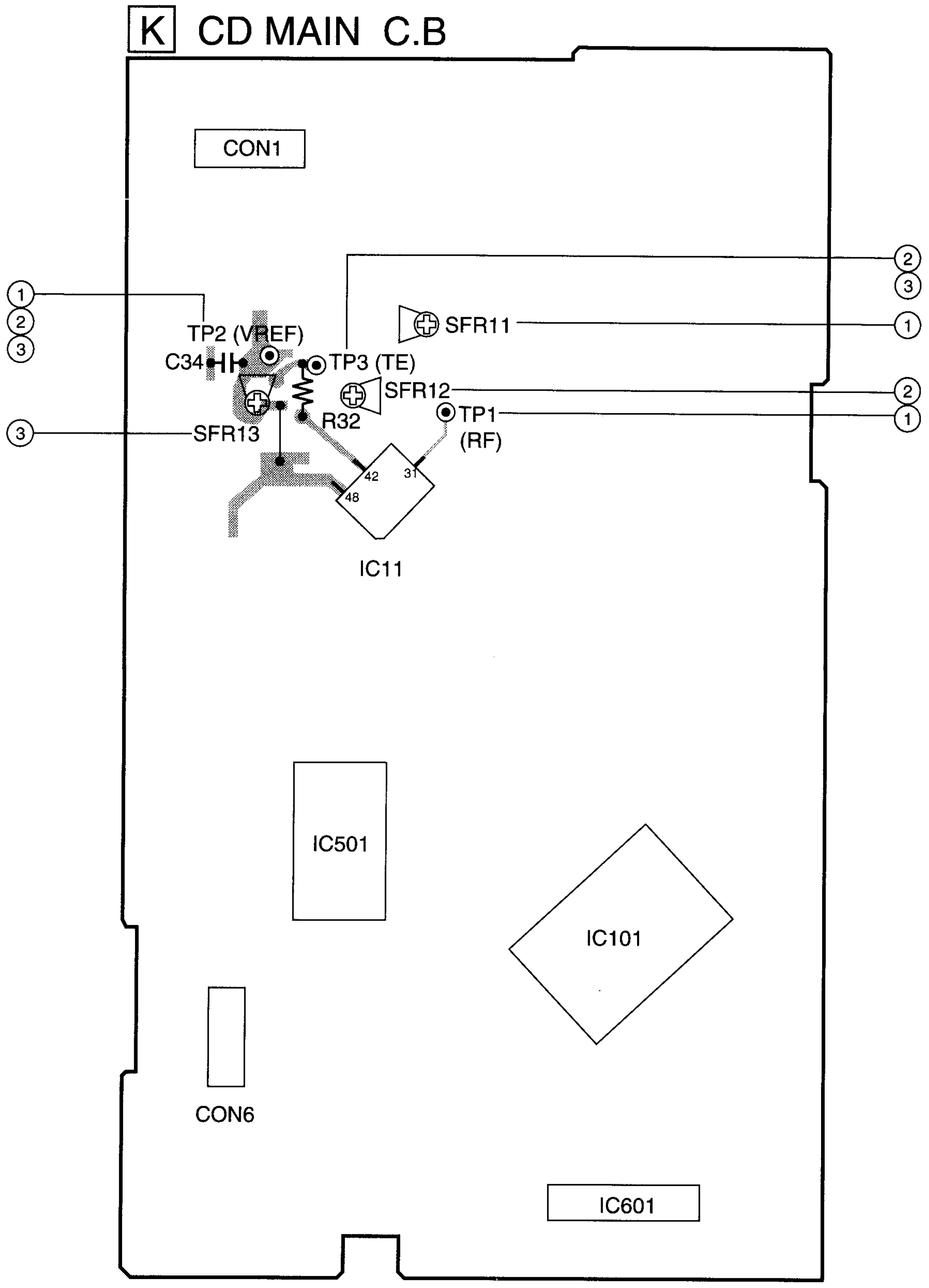
13. PB Frequency Response Check (DECK 1, DECK 2)
    Settings : • Test tape : TTA–200
    • Test point : TP8, TP9
    Method : Play back the 315Hz and 10kHz signals of the test tape and check that the output ratio of the 10kHz signal with respect to that of the 315Hz signal is within 2dB.

14. PB Sensitivity Adjustment (DECK 1, DECK 2)
    Settings : • Test tape : TTA–200
    • Test point : TP8, TP9
    • Adjustment location :
    SFR301 (DECK 1, Lch)
    SFR302 (DECK 1, Rch)
    SFR303 (DECK 2, Lch)
    SFR304 (DECK 2, Rch)
    Method : Play back the test tape and adjust SFRs so that the output level of the test point becomes 255mV (DECK 1),245mV(DECK 2).

15. REC/PB Frequency Response Adjustment
    Settings : • Test tape : TTA–602
    • Test point : TP8, TP9
    • Input signal : 1kHz / 10kHz (LINE IN)
    • Adjustment location : SFR451 (Lch)
    SFR452 (Rch)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP8, TP9 becomes 17mV. Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output of the 10kHz signals becomes 0dB ± 0.5dB with respect to that of the 1kHz signal.

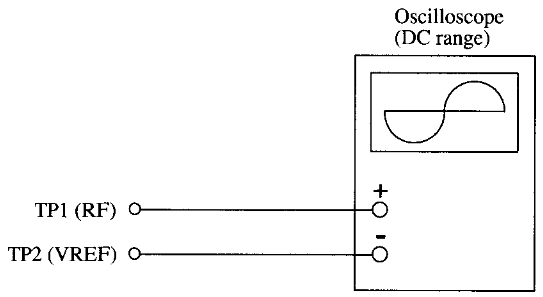
16. REC/PB Sensitivity Adjustment
    Settings : • Test tape : TTA–602
    • Test point : TP8, TP9
    • Input signal : 1kHz (LINE IN)
    • Adjustment location : SFR305 (Lch)
    SFR306 (Rch)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP8, TP9 becomes 17mV. Record and play back the 1kHz signals and adjust SFRs so that the output is 16mV ± 0.5dB.

17. Bias OSC Frequency Adjustment
    Settings : • Test tape : TTA–615
    • Test point : TP10 (Q352)
    • Beat SW OFF (EZ,K)
    • Adjustment location : L451
    Method : Set to the REC mode. Adjust L451 so that the frequency counter of the test point becomes 85kHz ± 1kHz.


K
CD MAIN C.B
CON1
①
②
③
TP2 (VREF)
C34
TP3 (TE)
SFR11
SFR12
R32
TP1
(RF)
SFR13
42
31
48
IC11
IC501
IC101
CON6
IC601

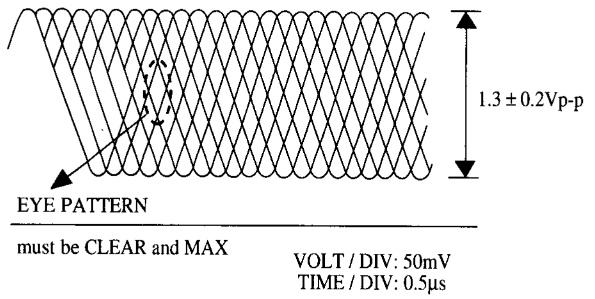
Note :
Connect a probe (10:1) of the oscilloscope or the frequency counter to a test point TP2(VREF).

1. Focus Bias Adjustment
   Make the focus bias adjustment when replacing and repairing the optical block.

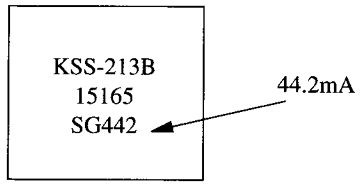

Oscilloscope
(DC range)
TP1 (RF)
TP2 (VREF)
+
-

1) Connect an oscilloscope to the test points TP1 (RF) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
4) Adjust SFR11 so that RF signal of the test point TP1 (RF) is MAX and CLEARREST.

RF signal waveform

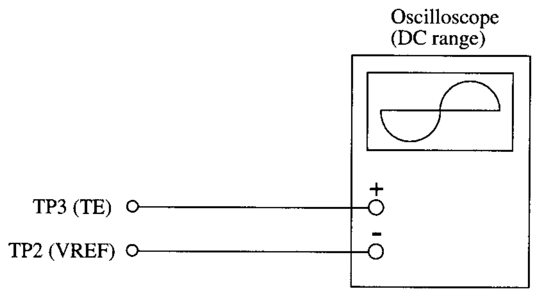

1.3 ± 0.2Vp-p
EYE PATTERN
must be CLEAR and MAX
VOLT / DIV: 50mV
TIME / DIV: 0.5μs

Note:
The current of the laser signal can be checked with the voltages on both sides of R28 (10Ω).
The difference for the specified value shown on the level must be within ± 6.0mA.

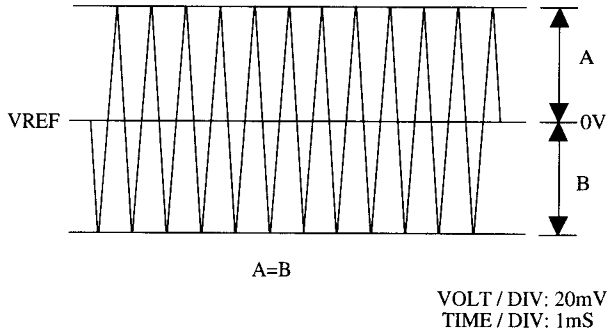

KSS-213B
15165
SG442
44.2mA

$$\text{Laser current Iop} = \frac{\text{Voltage across R28}}{10\Omega}$$

2. Tracking Balance Adjustment


Oscilloscope
(DC range)
TP3 (TE)
TP2 (VREF)
+
-

1) Connect an oscilloscope to the test points TP3 (TE) and TP2 (VREF).
2) Active the CD test mode.
3) Insert test disc TCD-782 (YEDS-18) and set the traverse mode (No.4) of CD test mode.
4) Adjust SFR12 so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
5) After the adjustment is completed, remove the connected lead wires from the terminals.


VREF
A
0V
B
A=B
VOLT / DIV: 20mV
TIME / DIV: 1mS

3. Tracking Gain Adjustment
A servo analyzer is necessary in order to perform this adjustment exactly. However, this gain has a margin, so even if it is slightly off, there is no problem.
Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when 2-axis device operates. However, as these gains are reciprocate, the adjustment is performed at the point where both gains are satisfied.

- When gain is raised, the noise increases when the 2-axis device operates increases.

- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.

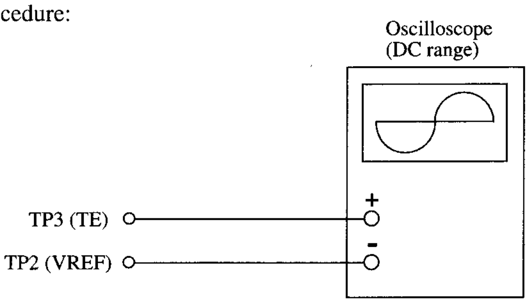
When the gain adjustment is not satisfied, the symptoms below appear.

Gain Symptoms	(Focus)	Tracking
• The time until music starts becomes longer for STOP → ▶PLAY or automatic selection (⏮, ⏭ buttons pressed.) (Normally takes about 2 seconds.)	low	low or high
• Music does not start and disc continues to rotate for STOP → ▶PLAY or automatic selection (⏮, ⏭ buttons pressed.)	–	low
• Disc stops to rotate shortly after STOP → ▶PLAY.	low or high	–
• Sound is interrupted during PLAY. Or time counter display stops.	–	low
• More noises during the 2-axis device operation.	high	high

The following is simple adjustment method.

– Simple adjustment –
Note: Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment.
If the positions after the simple adjustment are only a little different, return the controls to the original position.

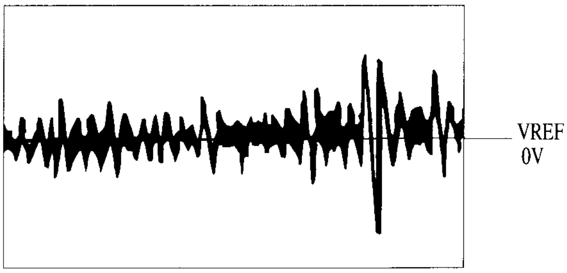
Procedure:



1) Keep the set horizontal. (If the set is not kept horizontally,
this adjustment cannot be performed due to the gravity against the 2-axis device.)
2) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
3) Connect an oscilloscope to TP2 (VREF) and TP3(TE).
4) Adjust SFR13 so that the waveform appears as shown in the figure below.
(tracking gain adjustment)

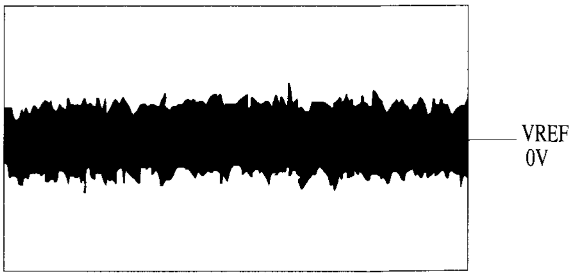
- Incorrect example

Low tracking gain
(The fundamental wave appears as compare with the waveform adjusted)



VOLT/DIV: 50 mV
TIME/DIV: 1 mS

High tracking gain
(The frequency of the fundamental wave is higher than in low gain)



VOLT/DIV: 50 mV
TIME/DIV: 1 mS

TEST MODE

1. How to Activate CD Test Mode
1) Insert the AC plug while pressing the function CD button. All FL display tubes will light up, and the test mode will be activated.

2. How to cancel CD Test Mode
Either one of the following operations will cancel the CD test mode.
- Press the function button (except CD button).
- Press the power switch button. • Disconnect the AC plug.

3. CD Test Mode Functions
When test mode is activated, the following mode functions from No. 1 to No. 5 can be used by pressing the operation keys.

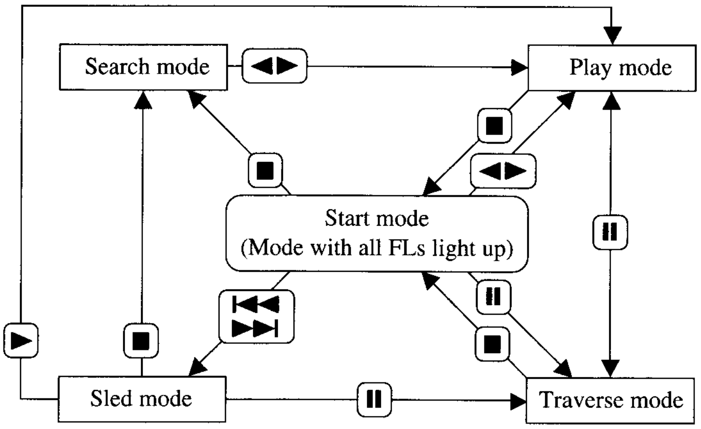
Mode / No.	Operation	FL display	Operation	Contents
Start mode No. 1	Test mode activation	All FL light up	• Active the test mode. (CD block power supply ON)	All FL displays light up
Search mode No. 2	■ key	C0--	• Laser diode illuminated under normal circumstances • Continual focus search * NOTE 1 (The pickup lens repeats the full-swing up-down motion.) * Avoid continual searches that last for more than 10 minutes.	• Laser current measurement (Across R28 resistor) FOCUS SERVO • Check focus search waveform • Check focus error waveform * FOK / FZC are not monitored in the search mode.
Play mode No. 3	◀▶ key	C01	• Normal playback • Focus search is continued if TOC cannot be read * NOTE 1	FOCUS SERVO / TRACKING SERVO CLV SERVO / SLED SERVO Check FOK / FZC
Traverse mode No. 4	II key	C01	• During normal disc playback Press once; tracking servo OFF Press twice; tracking servo ON * NOTE 2	TRACKING SERVO ON / OFF Tracking balance (traverse) adjustment TP2 (VREF), TP3 (TE)
Sled mode No. 5	⏮ key ⏭	All FL light up	• Pickup moves to the outermost track • Pickup moves to the innermost track * NOTE 3 (During playback, machine operates normally.)	SLED SERVO Check SLED mechanism operation

* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases, the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.

* NOTE 2: Do not press the ⏮ or ⏭ keys when the machine is in the II status is active. If they are pressed, playback will not be possible after the II status has been canceled. If the ⏮ or ⏭ keys are pressed in the II status, press the ■ key and return to start mode (No. 1).

* NOTE 3: When pressing the ⏮ or ⏭ keys, take care to avoid damage to the gears. Because the sled motor is activated when the ⏮ or ⏭ keys are pressed, even when the pick-up is at the outermost or innermost track.

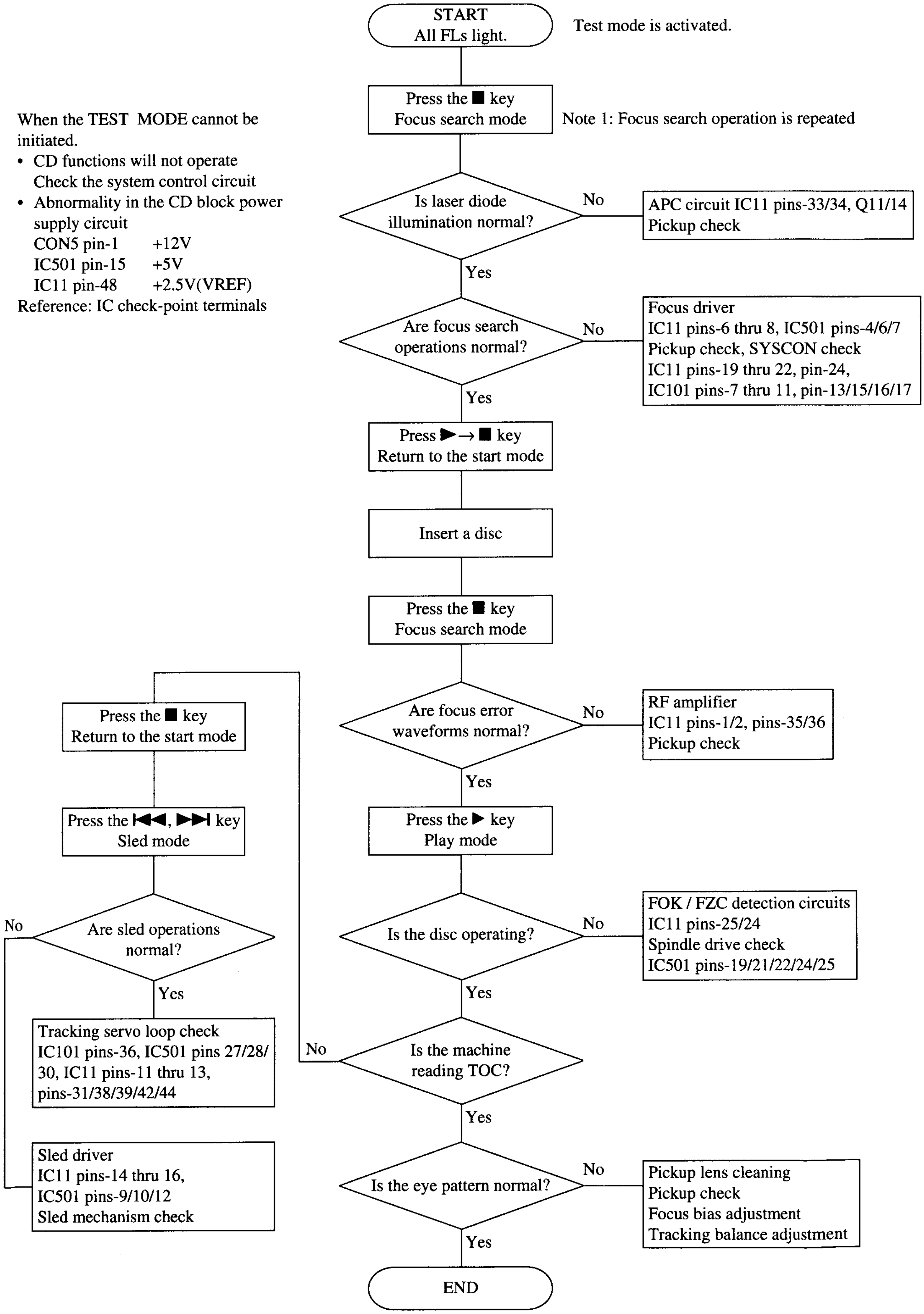
4. Operation Outline
- The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.
- When DISC DIRECT key is pressed, test mode is operated same as pressing the PLAY key.
- When CD tray is opened by OPEN / CLOSE key while play and traverse modes, test mode goes back start mode.



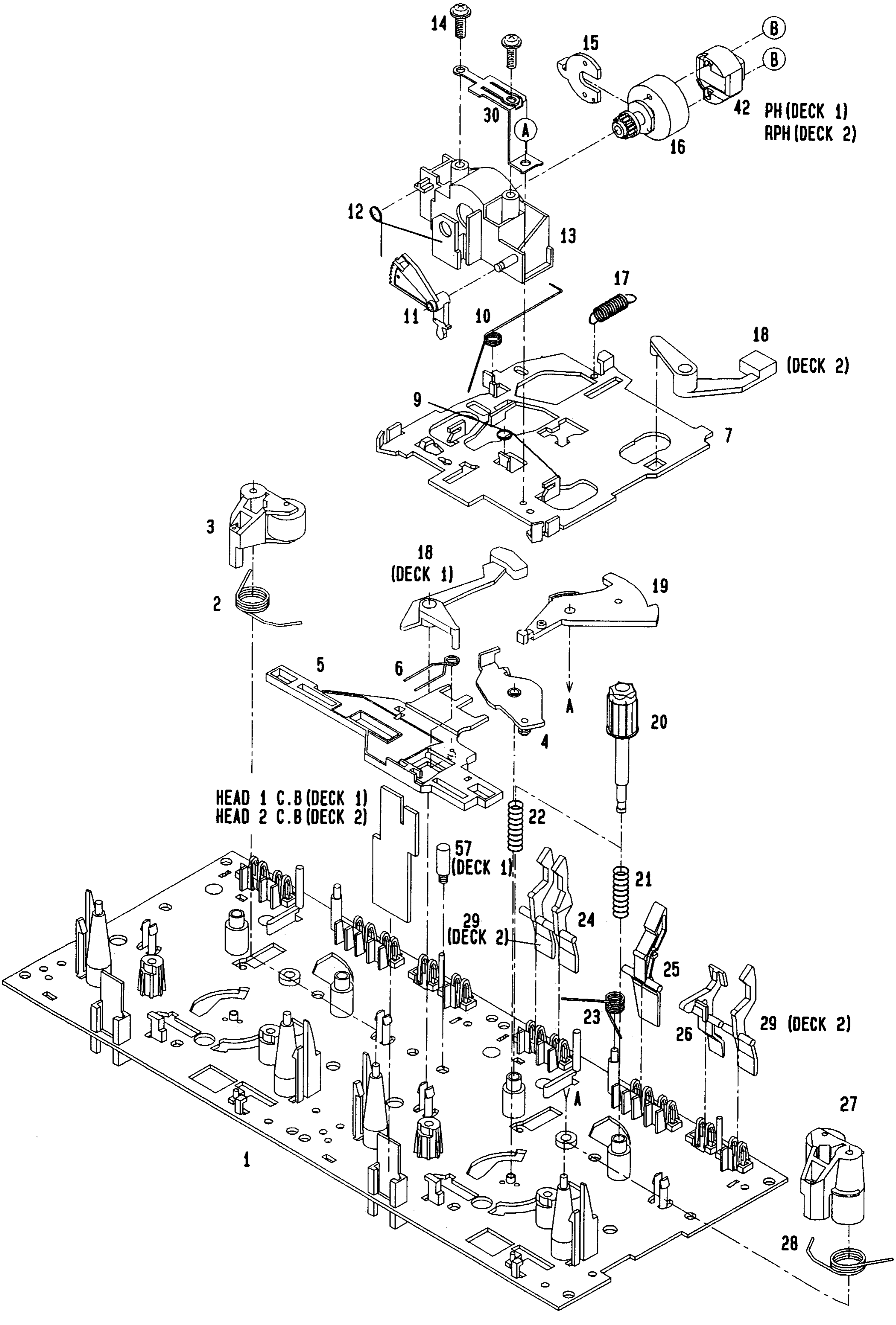
CD TROUBLE-SHOOTING

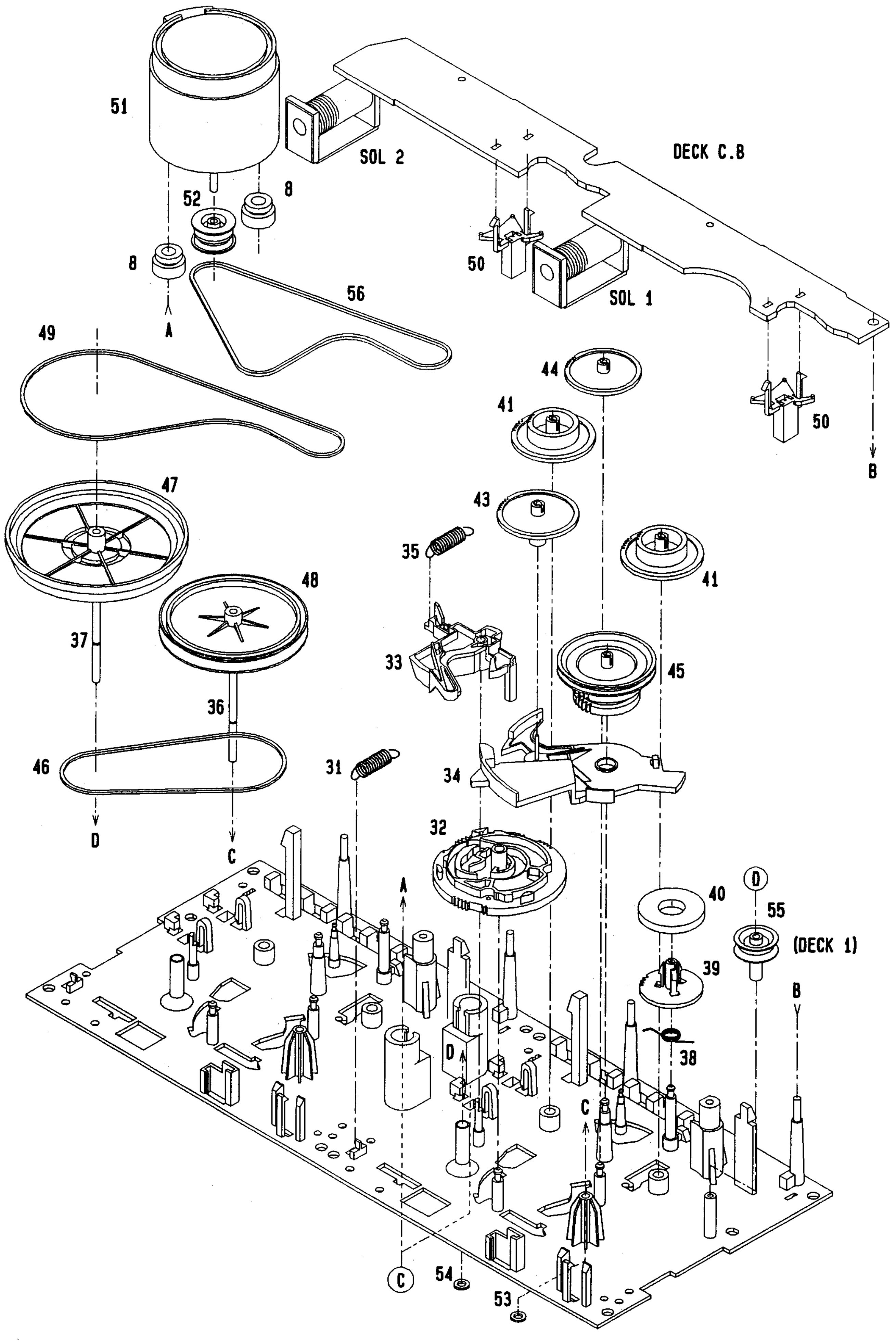
Flow Chart

- * When the TEST MODE cannot be initiated.
  - CD functions will not operate
    Check the system control circuit
  - Abnormality in the CD block power supply circuit
    CON5 pin-1 +12V
    IC501 pin-15 +5V
    IC11 pin-48 +2.5V(VREF)
- * Reference: IC check-point terminals


START
All FLs light.
Test mode is activated.
Press the ■ key
Focus search mode
Note 1: Focus search operation is repeated
Is laser diode illumination normal?
No
APC circuit IC11 pins-33/34, Q11/14
Pickup check
Yes
Are focus search operations normal?
No
Focus driver
IC11 pins-6 thru 8, IC501 pins-4/6/7
Pickup check, SYSCON check
IC11 pins-19 thru 22, pin-24,
IC101 pins-7 thru 11, pin-13/15/16/17
Yes
Press ▶→■ key
Return to the start mode
Insert a disc
Press the ■ key
Focus search mode
Are focus error waveforms normal?
No
RF amplifier
IC11 pins-1/2, pins-35/36
Pickup check
Yes
Press the ▶ key
Play mode
Is the disc operating?
No
FOK / FZC detection circuits
IC11 pins-25/24
Spindle drive check
IC501 pins-19/21/22/24/25
Yes
Is the machine reading TOC?
No
Press the ■ key
Return to the start mode
Press the |◀◀, ▶▶| key
Sled mode
Are sled operations normal?
No
Yes
Tracking servo loop check
IC101 pins-36, IC501 pins 27/28/30, IC11 pins-11 thru 13, pins-31/38/39/42/44
Sled driver
IC11 pins-14 thru 16,
IC501 pins-9/10/12
Sled mechanism check
Yes
Is the eye pattern normal?
No
Pickup lens cleaning
Pickup check
Focus bias adjustment
Tracking balance adjustment
Yes
END

TAPE MECHANISM EXPLODED VIEW 1 / 1


14
15
B
B
42
PH (DECK 1)
RPH (DECK 2)
30
A
16
12
13
17
11
10
18
(DECK 2)
9
7
3
18
(DECK 1)
19
2
5
6
A
4
20
HEAD 1 C.B (DECK 1)
HEAD 2 C.B (DECK 2)
22
57
(DECK 1)
21
24
29
(DECK 2)
25
23
26
29 (DECK 2)
A
27
1
28

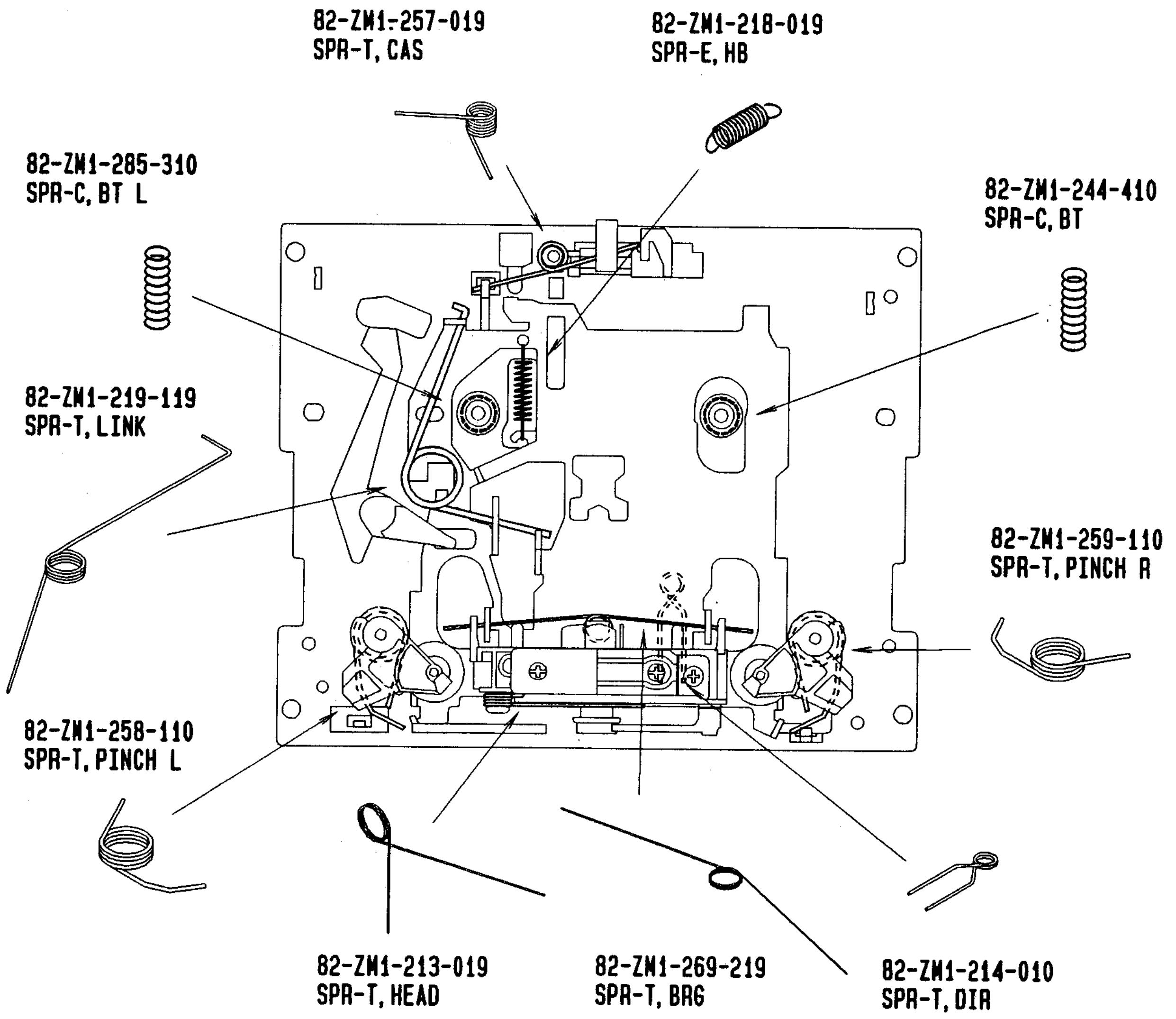


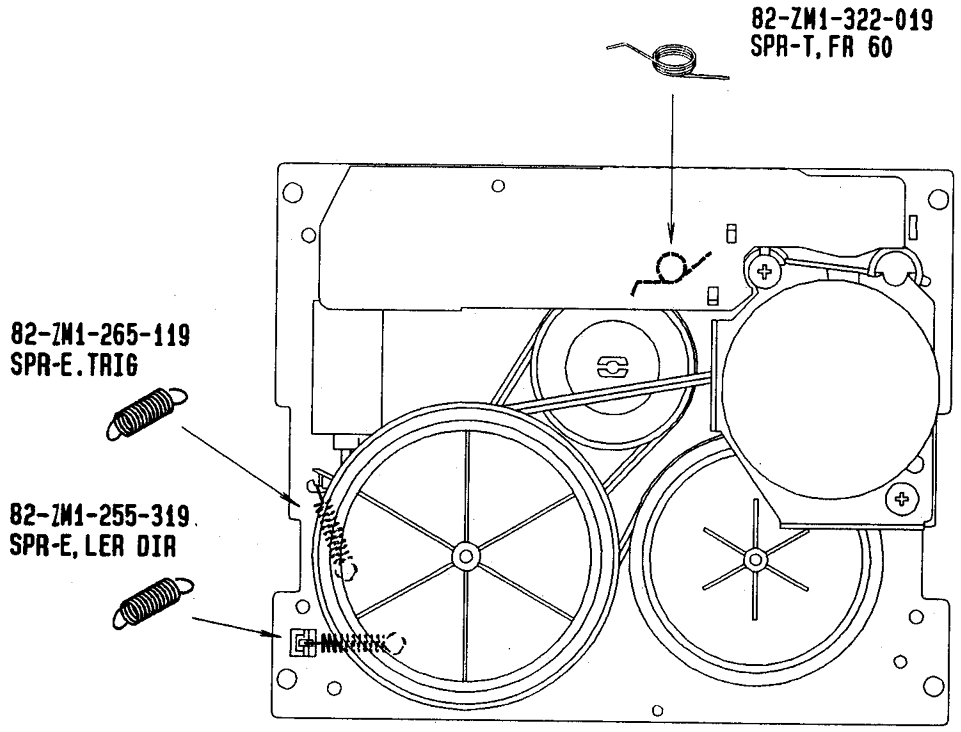
TAPE MECHANISM PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

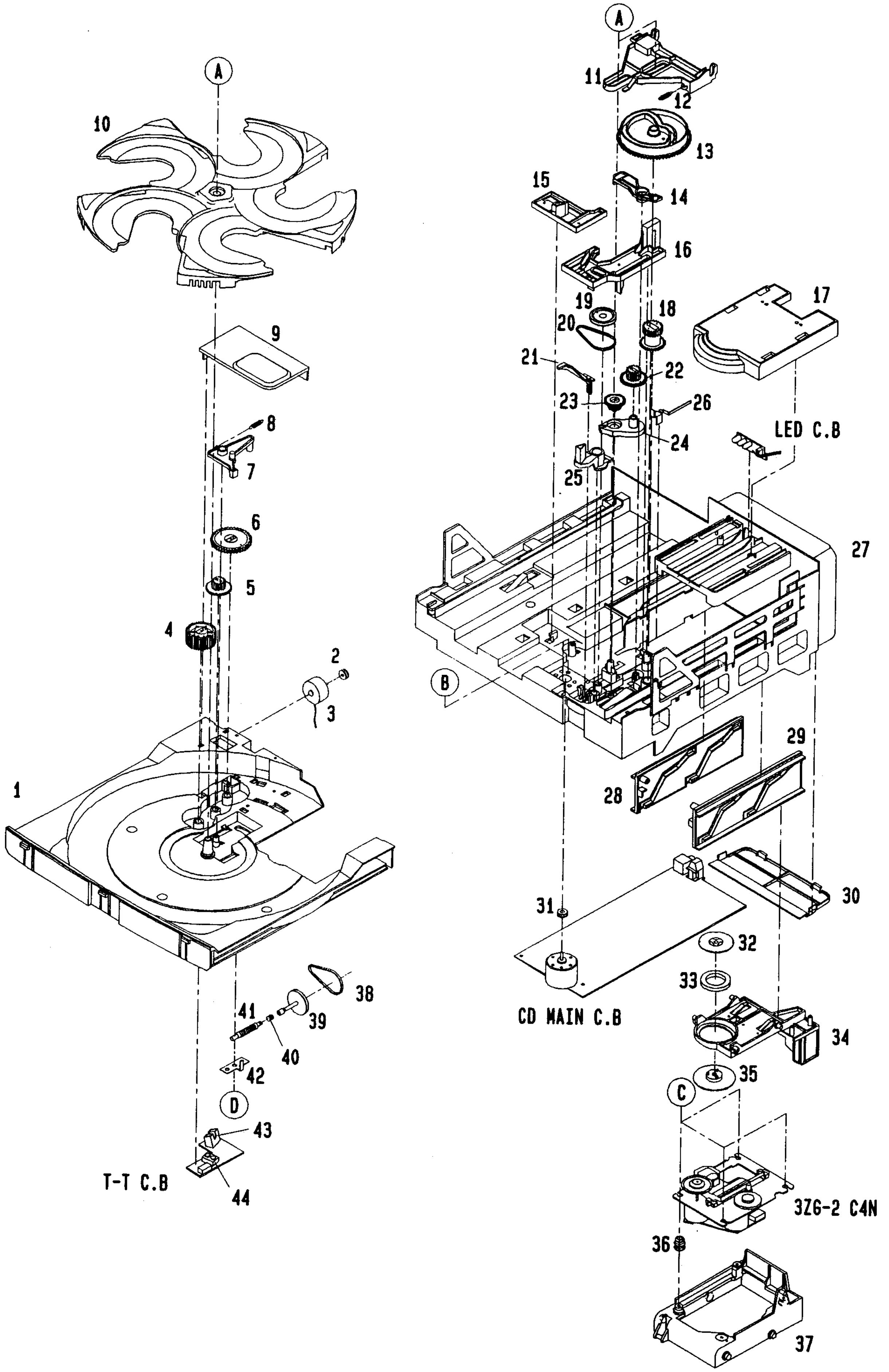
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM3-301-519		CHAS ASSY,M2
2	82-ZM1-258-110		SPR-T,PINCH L
3	82-ZM1-345-019		LVR ASSY,PINCH L W
4	82-ZM1-333-010		PLATE,LINK 2
5	82-ZM1-266-11K		LVR,DIR
6	82-ZM1-214-010		SPR-T,DIR
7	82-ZM1-206-81K		CHAS,HEAD
8	82-ZM3-307-019		CUSH-G,DIA3.7-8-3.2
9	82-ZM1-269-219		SPR-T,BRG
10	82-ZM1-219-119		SPR-T,LINK
11	82-ZM1-210-119		GEAR,H T
12	82-ZM1-213-019		SPR-T,HEAD
13	82-ZM1-207-619		GUIDE,TAPE
14	82-ZM1-283-310		S-SCREW,AZIMUTH
15	82-ZM1-314-119		PLATE,HEAD
16	82-ZM1-208-119		HLDR,HEAD
17	82-ZM1-218-019		SPR-E,HB
18	82-ZM1-263-110		LVR,EJECT L (DECK 1)
18	82-ZM1-264-010		LVR,EJECT R (DECK 2)
19	82-ZM1-222-21K		LVR,PLAY
20	82-ZM1-217-319		REEL TABLE
21	82-ZM1-244-510		SPR-C,BT
22	82-ZM1-285-310		SPR-C,BT L
23	82-ZM1-257-019		SPR-T,CAS
24	82-ZM1-241-319		LVR,MC
25	82-ZM1-242-019		LVR,CAS
26	82-ZM1-243-019		LVR,STOP
27	82-ZM1-346-019		LVR ASSY,PINCH R W
28	82-ZM1-259-110		SPR-T,PINCH R
29	82-ZM1-240-11K		LVR,REC (DECK 2)
30	82-ZM1-298-010		SPR-P,EARTH
31	82-ZM1-255-319		SPR-E,LVR DIR
32	82-ZM3-305-01K		GEAR,CAM M2
33	82-ZM1-227-21K		LVR,TRIG
34	82-ZM3-306-11K		LVR,FR M2
35	82-ZM1-265-119		SPR-E,TRIG
36	82-ZM1-236-019		CAPSTAN N 2-41.5
37	82-ZM1-239-019		CAPSTAN N 2.2-41.7
38	82-ZM1-322-019		SPR-T,FR60
39	82-ZM1-220-219		GEAR,IDLER
40	82-ZM3-616-019		RING MAGNET 4
41	82-ZM1-216-31K		GEAR,REEL
42	87-046-355-019		HEAD,PH HADKH2529B(PH)
42	87-046-356-019		HEAD,RPH HADKH5581B(RPH)
43	82-ZM1-225-21K		GEAR,FR
44	82-ZM1-226-019		GEAR,REW
45	82-ZM1-228-810		SLIP DISK ASSY
46	82-ZM1-338-010		BELT FR4
47	82-ZM1-238-81K		FLY-WHL ASSY,R (DECK 2)
47	82-ZM3-210-71K		FLY-WHL ASSY,R2 (DECK 1)
48	82-ZM1-235-51K		FLY-WHL ASSY,L (DECK 2)
48	82-ZM3-208-61K		FLY-WHL ASSY,L2 (DECK 1)
49	82-ZM3-329-210		BELT,SBU R2
50	82-ZM1-245-210		HLDR,IC
51	87-045-347-019		MOT,SHU2L 70(M1)
52	82-ZM3-221-010		PULLEY,MOT 2M
53	82-ZM1-288-019		SH,1.63-3.2-0.5 SLT
54	80-ZM6-243-019		SH,1.75-3.6-0.5 SLT
55	82-ZM3-304-110		PULLEY,COUPLER (DECK 1)
56	82-ZM3-328-110		BELT,SBU P2
57	82-ZM3-216-019		SHAFT,COUPLER N(DECK 1)
A	82-ZM1-315-010		S-SCREW,GVIDE TAPE
B	80-ZM6-207-019		V+1.6-7
C	82-ZM3-318-019		S-SCRW MOTOR M2
D	87-067-972-019		PW,1.05-3-0.25 SLT

SPRING APPLICATION POSITION


82-ZM1-257-019
SPR-T, CAS
82-ZM1-218-019
SPR-E, HB
82-ZM1-285-310
SPR-C, BT L
82-ZM1-244-410
SPR-C, BT
82-ZM1-219-119
SPR-T, LINK
82-ZM1-259-110
SPR-T, PINCH R
82-ZM1-258-110
SPR-T, PINCH L
82-ZM1-213-019
SPR-T, HEAD
82-ZM1-269-219
SPR-T, BRG
82-ZM1-214-010
SPR-T, DIR


82-ZM1-322-019
SPR-T, FR 60
82-ZM1-265-119
SPR-E. TRIG
82-ZM1-255-319
SPR-E, LER DIR

CD MECHANISM EXPLODED VIEW 1 / 2

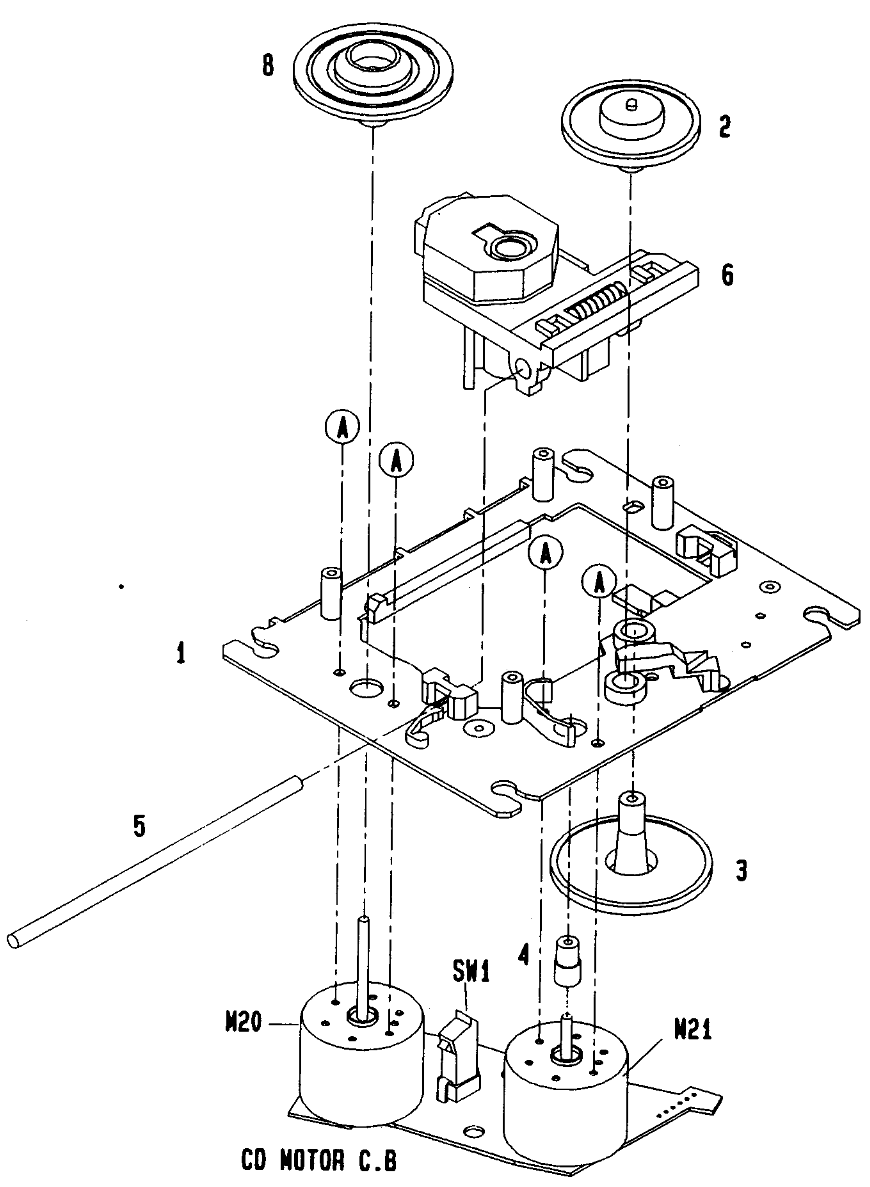

A
10
9
8
7
6
5
4
2
3
1
38
41
39
40
42
D
43
T-T C.B
44
A
11
12
13
15
14
16
17
19
18
20
21
22
23
26
24
LED C.B
25
27
B
29
28
30
31
32
33
CD MAIN C.B
34
35
C
3ZG-2 C4N
36
37

CD MECHANISM PARTS LIST 1 / 2

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-ZG1-001-119		TRAY,5CD
2	81-ZG1-212-01K		PULLY,LOAD MO
3	87-A90-036-019		MOT ASSY,RF-300CA-11
4	86-ZG1-228-019		GEAR,TT-B
5	86-ZG1-227-019		GEAR,TT-A
6	86-ZG1-223-019		WORM-WHEEL,TT
7	86-ZG1-224-019		LEVER,TT
8	86-ZG1-226-010		SPR-E,LEVER TT
9	86-ZG1-003-119		COVER,TRAY
10	86-ZG1-002-119		TURN TABLE,5CD
11	86-ZG1-211-119		JOINT,CAM
12	86-ZG1-216-010		SPR-E,JT
13	86-ZG1-203-019		GEAR,MAIN CAM
14	86-ZG1-213-019		LEVER,LOAD
15	86-ZG1-214-019		LEVER,PROTECT
16	86-ZG1-212-119		SLIDER,LOAD
17	86-ZG1-004-019		REFLECTOR,CD
18	86-ZG1-205-019		GEAR,TRAY
19	84-ZG1-219-019		PULLY,RELAY BGE
20	84-ZG1-209-010		BELT,SQ1.8-117.7
21	86-ZG1-217-019		LEVER,SW
22	86-ZG1-206-019		GEAR,RELAY B
23	86-ZG1-204-019		GEAR,RELAY A
24	86-ZG1-218-019		PLATE,GEAR
25	86-ZG1-208-019		LEVER,TRAY
26	86-ZG1-220-110		SPR-P,LOCK
27	86-ZG1-201-119		CHAS,MECHA
28	86-ZG1-209-019		SLIDER,CAM L
29	86-ZG1-210-019		SLIDER,CAM R
30	86-ZG1-005-019		COVER,CHAS
31	84-ZG2-228-019		PULLEY,MOT
32	83-ZG3-211-01K		PLATE,DISC
33	83-ZG3-602-010		RING,MAG
34	86-ZG1-215-019		HLDR,CHUCK
35	83-ZG3-212-019		CAP,DISC
36	80-CD3-214-019		CUSH CD A
37	86-ZG1-202-119		HLDR,MECHA
38	86-ZG1-225-019		BELT,SQ1.2-32.9
39	86-ZG1-221-01K		PULLEY,TT
40	86-ZG1-231-010		SPR-C,WORM
41	84-ZG1-256-010		GEAR,WORM N
42	86-ZG1-232-010		SPR-P,WORM
43	86-ZG1-229-019		HLDR,SENSOR
44	86-ZG1-230-019		HLDR,DISC SENSOR
A	87-078-148-019		VFT 2+3-12(F10)BLK
B	87-251-072-419		U+2.6-5
C	81-ZG1-254-019		S-SCREW,MECH HLDR
D	87-067-579-019		BVT2+3-8 W/O SLOT

CD MECHANISM EXPLODED VIEW 2 / 2

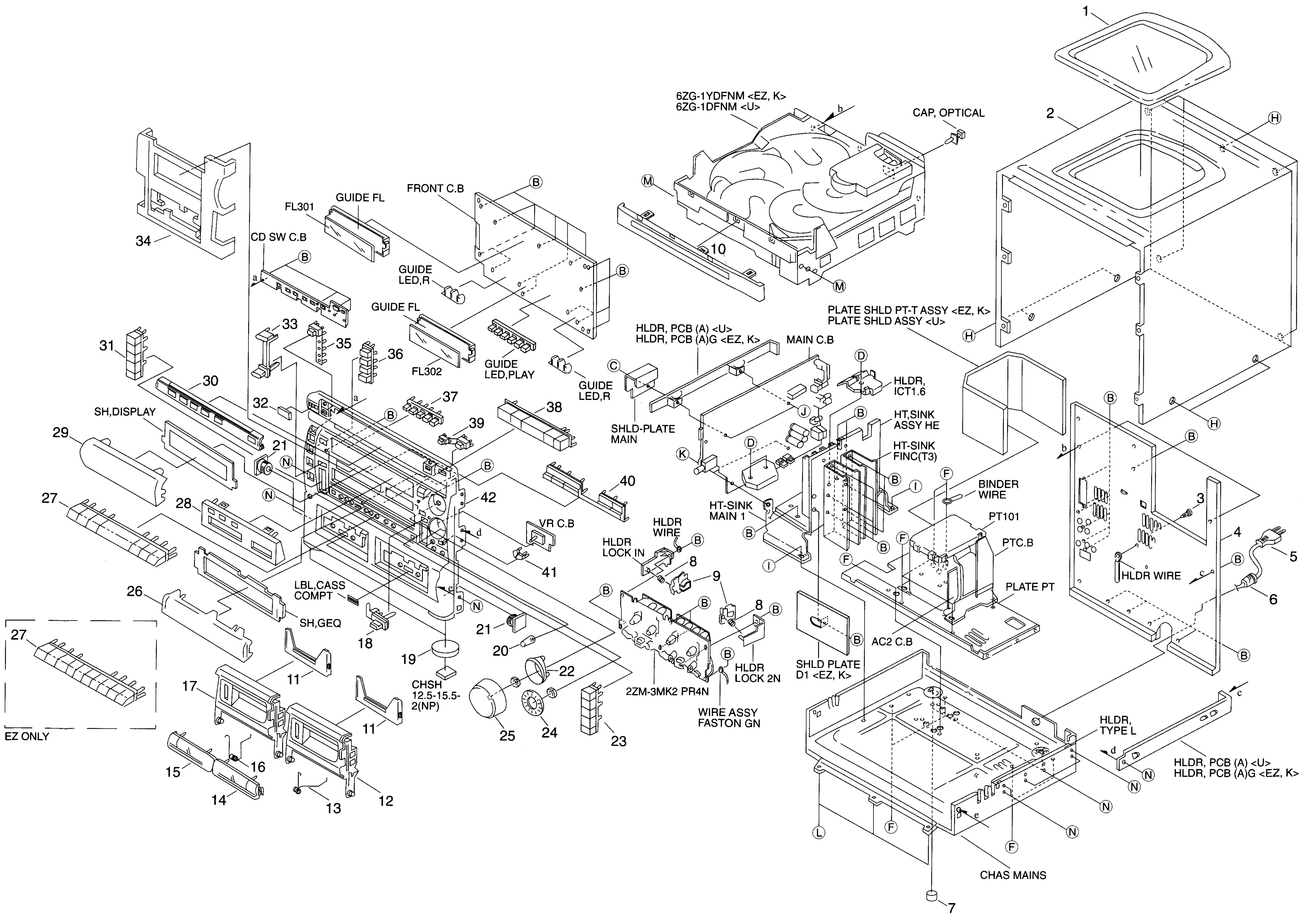


CD MECHANISM PARTS LIST 2 / 2

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-232-11K		O-SERT S ASSY,S5
2	83-ZG2-204-419		GEAR,A
3	83-ZG2-205-219		GEAR,B
4	83-ZG2-220-01K		GEAR MOTOR 2
5	83-ZG2-207-119		SHAFT,SLIDE
6	87-070-445-010		PICK-UP,KSS-213B
8	83-ZG2-227-01K		TURN TABLE,C1
A	87-261-032-219		SCREW V+2-3

MECHANICAL EXPLODED VIEW 1/1


1
2
6ZG-1YDFNM <EZ, K>
6ZG-1DFNM <U>
b
CAP, OPTICAL
Ⓗ
Ⓜ
10
Ⓜ
34
FRONT C.B
Ⓑ
FL301
GUIDE FL
CD SW C.B
Ⓑ
a
GUIDE
LED,R
Ⓑ
GUIDE FL
PLATE SHLD PT-T ASSY <EZ, K>
PLATE SHLD ASSY <U>
Ⓗ
33
35
36
31
FL302
GUIDE
LED,PLAY
GUIDE
LED,R
HLDR, PCB (A) <U>
HLDR, PCB (A)G <EZ, K>
MAIN C.B
Ⓒ
Ⓓ
HLDR,
ICT1.6
30
a
32
37
38
39
SH,DISPLAY
29
21
Ⓝ
Ⓑ
Ⓑ
SHLD-PLATE
MAIN
Ⓙ
Ⓚ
Ⓓ
Ⓑ
HT,SINK
ASSY HE
HT-SINK
FINC(T3)
Ⓗ
Ⓑ
Ⓑ
b
40
Ⓝ
Ⓑ
42
27
28
HT-SINK
MAIN 1
Ⓑ
Ⓘ
Ⓕ
BINDER
WIRE
3
d
VR C.B
HLDR
WIRE
Ⓑ
HLDR
LOCK IN
8
PT101
PTC.B
4
41
Ⓘ
Ⓑ
Ⓕ
HLDR WIRE
c
Ⓑ
5
Ⓕ
9
26
LBL,CASS
COMPT
e
Ⓝ
Ⓑ
Ⓑ
Ⓑ
8
PLATE PT
6
SH,GEQ
27
18
21
19
20
22
Ⓑ
Ⓑ
Ⓑ
HLDR
LOCK 2N
SHLD PLATE
D1 <EZ, K>
AC2 C.B
Ⓑ
17
11
CHSH
12.5-15.5-
2(NP)
2ZM-3MK2 PR4N
WIRE ASSY
FASTON GN
c
EZ ONLY
11
25
24
23
HLDR,
TYPE L
d
Ⓝ
HLDR, PCB (A) <U>
HLDR, PCB (A)G <EZ, K>
16
15
14
13
12
Ⓝ
Ⓝ
Ⓛ
Ⓕ
e
Ⓕ
CHAS MAINS
7

MECHANICAL PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-MA3-042-010		WINDOW,TOP
2	86-NFA-004-110		CABI,STEEL
3	87-084-077-010		RIVET,NYL 3.5-4.5
4	86-NF9-050-010		PANEL,REAR UBN<99U>
4	86-NF9-051-010		PANEL,REAR EZBNE<EZ>
4	86-NF9-052-010		PANEL,REAR KBNE<K>
4	86-NF9-054-010		PANEL,REAR UBNM 98 <98U>
⚠ 5	87-050-053-010		AC CORD ASSY,U-2<U>
⚠ 5	87-050-016-010		AC CORD ASSY,E<EZ>
⚠ 5	87-A80-059-010		AC CORD ASSY,K 3P(5A)<K>
6	87-085-185-010		BUSHING,AC CORD(E) CM-22B<EZ,K>
6	87-085-189-010		BUSHING,AC CORD(U) CM-22C<U>
7	87-085-221-010		FOOT, H 13.5
8	82-NF5-228-010		SPR-C,LOCK
9	82-NF5-229-010		PLATE,LOCK(*)
10	86-NF9-075-010		PANEL,TRAY E
11	86-NF6-061-010		REFLECTOR,CASS
12	86-NF9-065-010		BOX,CASS 2E
13	82-NF5-219-010		SPR-T,EJECT 2(SIN)
14	86-NF9-014-010		WINDOW,CASS 2
15	86-NF9-013-010		WINDOW,CASS 1
16	82-NF5-218-010		SPR-T,EJECT 1(SIN)
17	86-NF9-064-010		BOX,CASS 1E
18	86-NF9-038-010		KEY,DSP OFF
19	86-NF9-034-010		RING,FOOT
20	86-NT1-023-010		KNOB,RTRY MIC
21	87-063-165-010		OIL-DMPR,150
22	86-NF9-032-010		RING,VOL
23	86-NF9-026-010		KEY,DSP
24	86-NF9-033-010		KNOB,RTRY JOG
25	86-NF9-031-010		KNOB,RTRY VOL
26	86-NF9-012-010		WINDOW,GEQ
27	86-NF9-041-010		KEY,RDS<EZ>
27	86-NF9-030-010		KEY,BBE<K,U>
28	86-NF9-008-010		PANEL,CONTROL
29	86-NF9-067-010		WINDOW,DISPLAY RDS<EZ>
29	86-NF9-011-010		WINDOW,DISPLAY<K,U>
30	86-NF9-010-010		WINDOW,CD
31	86-NF9-025-010		KEY,GEQ
32	82-NE6-067-010		BADGE,AIWA 30N
33	86-NF9-037-010		KEY,GEQ OFF
34	86-NF9-007-010		PANEL,FR
35	86-NF9-042-010		KEY,ASSY POWER
36	86-NF9-024-010		KEY,FUN
37	86-NF9-016-110		KEY,ASSY DISC
38	86-NF9-043-010		KEY,ASSY PLAY
39	86-NF9-015-010		KEY,OPEN
40	86-NF9-039-110		KEY,REC
41	86-NF9-029-010		KEY,MEMORY
42	86-NF9-062-010		CABI,FR E<EZ,K>
42	86-NF9-073-010		CABI,FR U 98<98U>
42	86-NF9-061-010		CABI,FR U<99U>
A	87-067-579-010		BVT2+3-8 W/O SLOT
B	87-067-703-010		BVT2+3-10 W/O SLOT
C	87-741-094-410		UT2+3-6
D	87-067-822-010		BVT2+3-20 W/O SLOT
F	87-067-975-010		S-SCREW,IT+4-8 SWCH12A
H	87-067-641-010		UTT2+3-8 W/O SLOT BLK
I	87-067-689-010		BVTT+3-8
J	87-078-084-010		BVTT+3-6 W,CONVEX
K	87-067-633-010		BVT2+3-8 W,CONVEX
L	87-067-673-010		BVTT+3-8 BLK
M	87-721-097-410		QT2+3-12 W/O SLOT
N	87-591-095-410		QIT+3-8

ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-NF9-907-010		IB,U(E.S.F)M-98<98U>
1	86-NF9-903-010		IB,U(ESF)M<99U>
1	86-NF9-905-010		IB,K(E)NE<K>
1	86-NF9-904-010		IB,E(EGFSI)NE<EZ>
2	86-MA3-701-110		RC UNIT,6AS01<EZ,K>
2	86-MA3-702-010		RC UNIT,6AS01<U>
3	87-043-115-010		FEEDER-ANT,FM<U>
4	87-006-225-010		ANT,LOOP ANT NC2
5	87-043-106-010		ANT,FM 1007 AWG<EZ,K>

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
G−　　−	
G−　　−	
G−　　−	

アイワ株式会社
AIWA CO.,LTD.

9301978, 750038

Tokyo Japan

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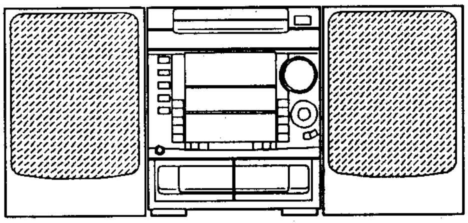
Printed in Singapore

aiwa

aiwa
SERVICE

NSX-F9
NSX-F98
NSX-F99
NSX-F12
NSX-F15



COMPACT DISC STEREO
CASSETTE RECEIVER

- BASIC TAPE MECHANISM : 2ZM-3MK2 PR4NM
- BASIC CD MECHANISM : 6ZG-1 SDFNM, SDF
- TYPE : LHA,HRA,EZA,KA,VA(9), UA(98,99),HD(9),LH(12,15)

SERVICE MANUAL

SUPPLEMENT

SYSTEM	CD – CASSEIVER	SPEAKER	REMOTE CONTROLLER
NSX-F9	CX-NF9 (TYPE:LHA,HRA,HD, EZA,KA,VA)	SX–NAVF9	RC UNIT, 6AS01
NSX-F98	CX-NF98 (TYPE:UA)	SX–FNF98	
NSX-F99	CX-NF99 (TYPE:UA)	SX–NAVF99	
NSX-F12	CX-NF12 (TYPE:LH)	SX–SNAVF12	
NSX-F15	CX-NF15 (TYPE:LH)	SX–NAVF9 SX-R280	

- If requiring information about the CD mechanism, see Service Manual of 6ZG-1. (S/M Code No.09-975-198-00T)

- These models have many changes, especially circuit and wiring diagrams as compared with the previous Service Manual as shown in the following :

NSX-F9 (LH,HE)	S/M code No. 09-96B-173-5FP
NSX-F9 (HR)	S/M code No. 09-971-178-5FP
NSX-F9/98/99 (EZ,K:9,U:98,99)	S/M code No. 09-971-178-4FP
NSX-F9 (V)	S/M code No. 09-972-182-1FP

S/M Code No. 09–978–206–5FP

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SPECIFICATIONS <9(EZ,K,V),98U,99U>

<FM Tuner section>

Tuning range	**V:** FM1 (OIRT) 65 MHz to 74 MHz (10 kHz step) FM2 (CCIR) 87.5 MHz to 108 MHz (50 kHz step) **EZ,K,U:** 87.5 MHz to 108 MHz
Usable sensitivity(IHF)	**V:** FM1 (OIRT) 15.3 dBf FM2 (CCIR) 12.8 dBf **U:** 13.2 dBf **EZ,K:** 16.8 dBf
Antenna terminals	75 ohms (unbalanced)

<MW Tuner section>

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 uV/m
Antenna	Loop antenna

<LW Tuner section> (EZ,K,V)

Tuning range	144 kHz to 290 kHz
Usable sensitivity	1400 uV/m
Antenna	Loop antenna

<Amplifier section>

***Power output**	**V:** Rated 160 W + 160 W (6 ohms, T.H.D.1%,1 kHz) Reference: 200 W + 200 W (6 ohms, T.H.D.10%,1 kHz) **EZ,K:** Rated 160 W + 160 W (6 ohms,T.H.D.1%,1 kHz/DIN 45500) Reference: 200 W + 200 W (6 ohms,T.H.D.10%,1 kHz/DIN 45324) DIN MUSIC POWER 280 W + 280 W *(without connecting to the SURROUND SPEAKERS) **U:** 160 W + 160 W (50 Hz-20 kHz, THD less than 1%, 6 ohms)
Total harmonic distortion	**EZ,K,V:** 0.1% (20 W, 1 kHz, 6 ohms, DIN AUDIO) **U:** 0.1% (20 W, 1 kHz, 6 ohms)
Inputs	VIDEO/AUX : 210 mV(adjustable) MIC 1,MIC 2: 1.4mV (10 kohms)
Outputs	LINE OUT: 200mV SUPER WOOFER: 3.1 V SPEAKERS: accept speakers of 6 ohms or more SURROUND SPEAKERS: accept speakers of 16 ohms or more PHONES (stereo jack) : accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CRo_2 tape: 50 Hz – 16000 Hz Normal tape: 50 Hz –15000 Hz
Singnal-to noise ratio	60 dB (Dolby B NR ON, CrO_2 tape peak level)
Recording system	AC bias
Heads	Deck 1 : playback head x 1 Deck 2 : Recording/Playback/ erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	83 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

<Speaker system SX–NAVF9> (EZ,K,V)
<Speaker system SX–NAVF99> (99U)

Cabinet type	3 way, bass reflex (magnetic shielded type)
Speakers	Woofer : 160 mm cone type Tweeter : 80 mm cone type Super tweeter: 20 mm ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	260 x 353 x 330mm ($10^{1}/_{4}$ x 14 x 13 in.)
Weight	5.9 kg (13 lbs.)

<Speaker system SX–FNF98> (98U)

Cabinet type	3 way, bass reflex with surround speaker (magnetic shielded type)
Speakers	Woofer : 160 mm cone type Tweeter : 80 mm cone type Super tweeter: 20 mm ceramic type Surround speaker: 80 mm cone type
Impedance	Front speaker: 6 ohms Surround speaker: 16 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	260 x 353 x 310mm ($10^{1}/_{4}$ x 14 x $12^{1}/_{4}$ in.)
Weight	5.8 kg (12 lbs. 13 oz.)

<General> (EZ,K,V)

Power requirements	230 V AC,50 Hz
Power consumption	210 W
Dimensions of main unit (W x H x D)	300 x 357.5 x 374 mm
Weight of main unit	12 kg

<General> (U)

Power requirements	120 V AC,60 Hz
Power consumption	165 W
Dimensions of main unit (W x H x D)	300 x 357.5 x 374 mm ($11^{7}/_{8}$ x $14^{1}/_{8}$ x $14^{3}/_{4}$ in.)
Weight of main unit	12 kg (26 lbs. 8 oz.)

- Design and specifications are subject to change without notice.

- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
  "DOLBY" and the double-D symbol ◻◻ are trademarks of Dolby Laboratories Licensing Corporation.

- The word "BBE"and the "BBE symbol" are trademarks of BBE Sound, Inc.
  Under license from BBE Sound,Inc.

SPECIFICATIONS <9(LH,HR,HD),12LH,15LH>

<FM Tuner section>

Tuning range	**HD:** 76 MHz to 108 MHz **EXCEPT HD:** 87.5 MHz to 108 MHz
Usable sensitivity(IHF)	**HD:** 12.8 dBf **EXCEPT HD:** 13.2 dBf
Antenna terminals	75 ohms (unbalanced)

<MW Tuner section>

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 uV/m
Antenna	Loop antenna

<SW Tuner section> (HR)

Tuning range	5.900 MHz to 17.900 MHz
Antenna	Wire antenna

<Amplifier section>

***Power output**	Rated 160 W + 160 W (6 ohms,T.H.D.1%,1 kHz) Reference: 200 W + 200 W (6 ohms, T.H.D.10%,1 kHz)

*(without connecting to the SURROUND SPEAKERS)

Total harmonic distortion	0.1% (20 W, 1 kHz, 6 ohms, DIN AUDIO)
Inputs	VIDEO/AUX : 210mV(adjustable) MIC 1,MIC 2: 1.4mV (10 kohms)
Outputs	LINE OUT: 200mV SUPER WOOFER: 3.1 V SPEAKERS: accept speakers of 6 ohms or more SURROUND SPEAKERS: accept speakers of 16 ohms or more PHONES (stereo jack) : accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CRo$_2$ tape: 50 Hz – 16000 Hz Normal tape: 50 Hz –15000 Hz
Singnal-to noise ratio	60 dB (Dolby B NR ON, CrO$_2$ tape peak level)
Recording system	AC bias
Heads	Deck 1 : playback head x 1 Deck 2 : Recording/Playback/ erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	85 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

<Speaker system SX–SNAVF12> (12LH)
<Speaker system SX–NAVF9> (EXCEPT 12LH)

Cabinet type	3 way, bass reflex (magnetic shielded type)
Speakers	Woofer : 160 mm cone type Tweeter : 80 mm cone type Super tweeter: 20 mm ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	260 x 353 x 330mm
Weight	5.9 kg

<General>

Power requirements	**HD:** AC 100-120V or 200-240 V switchable 50/60 Hz **EXCEPT HD:** 120 V / 220 – 230 V / 240 V AC, switchable 50/60 Hz
Power consumption	210 W
Dimensions of main unit (W x H x D)	300 x357.5 x 374 mm
Weight of main unit	**HR, HD:** 12 kg **LH:** 13 kg

- Design and specifications are subject to change without notice.

- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
  "DOLBY" and the double-D symbol ᗡᗞ are trademarks of Dolby Laboratories Licensing Corporation.

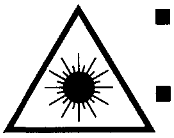
- The word "BBE"and the "BBE symbol" are trademarks of BBE Sound, Inc.
  Under license from BBE Sound,Inc.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saataa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herin may result in hazardous radiation exposure.

ATTENTION

L'utillisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL

Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

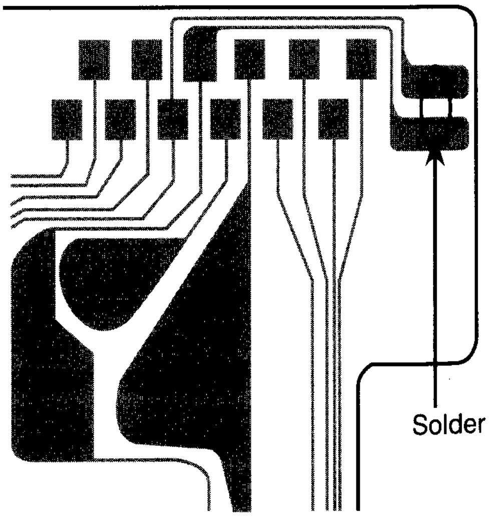
Precaution to replace Optical block

(KSS-213B)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use the clothes do not touch the diode.

1) After the connection, remove solder shown in right figure.

PICK – UP Assy P.C.B.



ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

IC

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
	87-020-454-010		IC,DN6851
	86-NFW-620-010		C-IC,LC866556W-5E74<EXCEPT EZ>
	86-NF9-622-010		C-IC,LC866560W-5E98<EZ>
	87-A20-154-010		IC,SPS-444-1
	87-A20-455-010		IC,HA12211
	87-A20-355-010		IC,CXA1553P
	87-070-232-010		IC,BA3834S
	87-A20-056-010		IC,BA3880S
	87-017-915-080		IC,BU4094BCF
	87-A20-456-040		C-IC,BH3810 FS
	87-A20-613-040		C-IC,BU9262AFS
	87-017-888-080		IC,NJM4558MD
	87-A20-437-010		C-IC,M62431FP
	86-NFZ-655-010		IC,LC27131D(Z)
	87-A20-438-010		IC,LA1837
	87-A20-450-040		C-IC,BH 3864 F
	87-A20-440-040		IC,BU1920FS<EZ>
	87-070-060-040		C-IC,TA2040AF<HD>

TRANSISTOR

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
	87-026-463-080		TR,2SA933SRS
	89-213-702-010		TR,2SB1370 (1.8W)
	87-A30-075-080		C-TR,2SA1235F
	87-026-610-080		TR,KTC3198GR
	87-A30-076-080		C-TR,2SC3052F
	87-A30-073-080		C-TR,RT1N 141C
	87-A30-083-080		TR,CSD1489B
	87-026-609-080		TR,KTA1266GR
	87-A30-086-070		C-TR,CSD1306E
	87-A30-106-070		C-TR,CMBT5551
	87-026-263-080		C-TR,RN1410
	87-A30-111-080		TR,C2N5401
	87-A30-097-010		TR,FN 1016
	87-A30-098-010		TR,FP 1016
	87-A30-089-010		FET,2SK2723
	87-A30-072-080		C-TR,RT1P 144C
	87-A30-087-080		C-FET,2SK2158
	87-A30-074-080		C-TR,RT1P 141C
	89-112-965-080		TR,2SA1296 (0.75W)
	87-A30-071-080		C-TR,RT1N 144C
	87-026-228-080		C-TR,DTA124EK
	87-A30-084-080		TR,CSB1058B
	87-026-232-080		TR,DTA144WK
	87-A30-085-070		C-TR,CSA1362GR
	89-505-434-540		C-FET,2SK543-TB(4/5)<HR,EZ,K,V>
	87-026-226-080		C-TR,DTA143EK<HD>
	89-327-143-080		C-TR,2SC2714(O)

DIODE

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
	87-A40-003-080		ZENER,MTZJ4.3A
	87-A40-246-080		DIODE,IN4148 T-72
	87-017-654-060		DIODE,GBU6J
	87-A40-269-080		C-DIODE,MC2836
	87-017-437-080		DIODE,1N4148M
	87-A40-270-080		C-DIODE,MC2838
	87-070-274-080		DIODE,1N4003 SEM
	87-A40-211-080		ZENER UZ36BSA
	87-A40-206-080		ZENER,UZ10BSC
	87-A40-004-080		ZENER,MTZJ16A
	87-A40-382-080		C-DIODE,RB705D
	87-A40-205-080		ZENER,UZ6.2BSC
	87-A40-202-080		ZENER,UZ5.1BSB
	87-A40-274-010		DIODE,FMB-G16L
	87-017-481-080		ZENER,UZ5.6BSB
	87-A40-192-080		ZENER,UZ4.3BSA
	87-A40-239-080		ZENER,UZ5.6 BSA

MAIN C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C101	87-A10-231-090		CAP,E 3300-80
C102	87-A10-231-090		CAP,E 3300-80
C103	87-016-658-090		CAP,E 4700-35 SMG
C104	87-016-658-090		CAP,E 4700-35 SMG
C105	87-012-368-080		C-CAP,S 0.1-50 F
C106	87-012-368-080		C-CAP,S 0.1-50 F
C107	87-012-368-080		C-CAP,S 0.1-50 F
C108	87-012-368-080		C-CAP,S 0.1-50 F
C109	87-010-196-080		CHIP CAPACITOR,0.1-25
C110	87-010-196-080		CHIP CAPACITOR,0.1-25
C111	87-010-196-080		CHIP CAPACITOR,0.1-25
C112	87-010-196-080		CHIP CAPACITOR,0.1-25
C113	87-010-247-080		CAP, ELECT 100-50V
C114	87-010-384-080		CAP, ELECT 100-25V<EXCEPT U>
C115	87-010-384-080		CAP, ELECT 100-25V<EXCEPT U>
C116	87-010-247-080		CAP, ELECT 100-50V
C117	87-010-430-080		CAP, ELECT 100-63
C118	87-010-263-080		CAP, ELECT 100-10V
C119	87-010-260-080		CAP, ELECT 47-25V
C120	87-010-403-080		CAP, ELECT 3.3-50V
C121	87-012-140-080		CAP 470P
C122	87-010-263-080		CAP, ELECT 100-10V<U>
C123	87-010-247-080		CAP, ELECT 100-50V
C124	87-010-112-080		CAP, ELECT 100-16V
C125	87-010-235-080		CAP,E 470-16 SME
C126	87-012-368-080		C-CAP,S 0.1-50 F<EZ,K>
C127	87-012-368-080		C-CAP,S 0.1-50 F<EZ,K>
C129	87-010-393-080		CAP, ELECT 100-35V
C200	87-012-368-080		C-CAP,S 0.1-50 Z F
C201	87-010-401-080		CAP, ELECT 1-50V
C202	87-010-401-080		CAP, ELECT 1-50V
C205	87-010-178-080		C-CAP,S 1000P-50 B
C206	87-010-178-080		C-CAP,S 1000P-50 B
C207	87-010-404-080		CAP, ELECT 4.7-50V
C208	87-010-404-080		CAP, ELECT 4.7-50V
C209	87-010-404-080		CAP, ELECT 4.7-50V
C210	87-010-404-080		CAP, ELECT 4.7-50V
C211	87-010-186-080		CAP,CHIP 4700P
C212	87-010-186-080		CAP,CHIP 4700P
C213	87-010-260-080		CAP, ELECT 47-25V
C214	87-010-260-080		CAP, ELECT 47-25V
C215	87-010-196-080		C-CAP,S 0.1-25 Z F
C219	87-012-368-080		C-CAP,S 0.1-50 F
C220	87-012-368-080		C-CAP,S 0.1-50 F
C221	87-012-368-080		C-CAP,S 0.1-50 F
C222	87-012-368-080		C-CAP,S 0.1-50 F
C223	87-010-194-080		CAP, CHIP 0.047<EXCEPT EZ,K>
C225	87-A10-516-080		C-CAP,S 100P-200 J CH
C226	87-A10-516-080		C-CAP,S 100P-200 J CH
C227	87-010-197-080		CHIP CAP 0.01 DM<EZ,K>
C228	87-010-178-080		CHIP CAP 1000P<EZ,K>
C229	87-016-461-080		C-CAP,S 0.47-16 Z F
C230	87-016-461-080		C-CAP,S 0.47-16 Z F
C231	87-010-176-080		C-CAP,S 680P-50 SL<EZ,K>
C232	87-010-176-080		C-CAP,S 680P-50 SL<EZ,K>
C233	87-010-318-080		C-CAP,S 47P-50 CH<EZ,K>
C234	87-010-318-080		C-CAP,S 47P-50 CH<EZ,K>
C235	87-010-191-080		C-CAP,S 0.015-50 FZ GRM<EZ,K>
C236	87-010-191-080		C-CAP,S 0.015-50 FZ GRM<EZ,K>
C237	87-010-197-080		CHIP CAP 0.01 DM<EZ,K>
C238	87-010-197-080		CHIP CAP 0.01 DM<EZ,K>
C239	87-010-318-080		C-CAP,S 47P-50 CH<EZ,K>
C240	87-010-318-080		C-CAP,S 47P-50 CH<EZ,K>
C242	87-010-405-080		CAP, ELECT 10-50V
C243	87-016-461-080		C-CAP,S 0.47-16 Z F
C301	87-010-318-080		C-CAP,S 47P-50 CH
C302	87-010-318-080		C-CAP,S 47P-50 CH

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C303	87-012-157-080		C-CAP,S 330P-50 CH
C304	87-012-157-080		C-CAP,S 330P-50 CH
C305	87-012-145-080		CAP, CHIP S 270P CH
C306	87-012-145-080		CAP, CHIP S 270P CH
C307	87-010-196-080		CHIP CAPACITOR,0.1-25
C311	87-010-198-080		CAP, CHIP 0.022
C312	87-010-198-080		CAP, CHIP 0.022
C313	87-010-180-080		C-CER 1500P
C314	87-010-180-080		C-CER 1500P
C315	87-010-178-080		CHIP CAP 1000P
C316	87-010-178-080		CHIP CAP 1000P
C317	87-012-142-080		CAP, S 0.33-16
C318	87-012-142-080		CAP, S 0.33-16
C319	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C320	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C321	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C322	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C324	87-010-260-080		CAP, ELECT 47-25V
C325	87-010-370-080		CAP,E 330-6.3 SME
C327	87-010-404-080		CAP, ELECT 4.7-50V
C328	87-010-404-080		CAP, ELECT 4.7-50V
C332	87-010-196-080		CHIP CAPACITOR,0.1-25
C335	87-010-401-080		CAP, ELECT 1-50V
C336	87-010-401-080		CAP, ELECT 1-50V
C337	87-010-196-080		CHIP CAPACITOR,0.1-25
C339	87-010-196-080		CHIP CAPACITOR,0.1-25
C340	87-010-196-080		CHIP CAPACITOR,0.1-25
C351	87-012-140-080		CAP 470P
C352	87-012-140-080		CAP 470P
C354	87-010-175-080		CAP 560P
C355	87-010-178-080		CHIP CAP 1000P
C356	87-010-260-080		CAP, ELECT 47-25V
C357	87-010-197-080		CAP, CHIP 0.01 DM
C358	87-010-183-080		C-CAP,S 2700P-50 B
C359	87-010-183-080		C-CAP,S 2700P-50 B
C360	87-010-183-080		C-CAP,S 2700P-50 B
C370	87-010-196-080		CHIP CAPACITOR,0.1-25
C371	87-010-179-080		CAP,CHIP S B1200P
C372	87-010-179-080		CAP,CHIP S B1200P
C373	87-010-179-080		CAP,CHIP S B1200P
C374	87-010-179-080		CAP,CHIP S B1200P
C375	87-010-545-080		CAP, ELECT 0.22-50V
C376	87-010-545-080		CAP, ELECT 0.22-50V
C378	87-010-196-080		CHIP CAPACITOR,0.1-25
C381	87-010-197-080		CAP, CHIP 0.01 DM
C382	87-010-318-080		C-CAP,S 47P-50 CH
C383	87-010-197-080		CAP, CHIP 0.01 DM
C384	87-010-402-080		CAP, ELECT 2.2-50V
C385	87-010-184-080		CHIP CAPACITOR 3300P(K)
C386	87-010-196-080		CHIP CAPACITOR,0.1-25
C388	87-010-154-080		CAP CHIP 10P<EXCEPT U>
C401	87-010-187-080		CAP CHIP S5600P
C402	87-010-187-080		CAP CHIP S5600P
C403	87-010-405-080		CAP, ELECT 10-50V
C404	87-010-405-080		CAP, ELECT 10-50V
C405	87-010-260-080		CAP, ELECT 47-25V
C406	87-010-101-080		CAP, ELECT 220-16
C407	87-010-188-080		CAP,CHIP 6800P
C408	87-010-188-080		CAP,CHIP 6800P
C409	87-012-140-080		CAP 470P
C410	87-012-140-080		CAP 470P
C411	87-010-197-080		CAP, CHIP 0.01 DM
C412	87-010-197-080		CAP, CHIP 0.01 DM
C413	87-010-195-080		C-CAP,S 0.068-25 F
C414	87-010-195-080		C-CAP,S 0.068-25 F
C415	87-010-404-080		CAP, ELECT 4.7-50V
C416	87-010-404-080		CAP, ELECT 4.7-50V
C417	87-010-404-080		CAP, ELECT 4.7-50V
C418	87-010-404-080		CAP, ELECT 4.7-50V
C420	87-010-197-080		CAP, CHIP 0.01 DM<EZ,K>

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C421	87-010-401-080		CAP, ELECT 1-50V
C422	87-010-401-080		CAP, ELECT 1-50V
C516	87-010-196-080		CHIP CAPACITOR,0.1-25
C605	87-010-180-080		C-CER 1500P
C606	87-010-180-080		C-CER 1500P
C609	87-010-322-080		C-CAP,S 100P-50 CH<EZ,K>
C610	87-010-322-080		C-CAP,S 100P-50 CH<EZ>
C611	87-010-196-080		CHIP CAPACITOR,0.1-25
C613	87-010-404-080		CAP, ELECT 4.7-50V
C614	87-010-404-080		CAP, ELECT 4.7-50V
C615	87-010-183-080		C-CAP,S 2700P-50 B
C619	87-010-263-080		CAP, ELECT 100-10V
C620	87-010-196-080		CHIP CAPACITOR,0.1-25
C621	87-010-263-080		CAP, ELECT 100-10V
C622	87-010-196-080		CHIP CAPACITOR,0.1-25
C623	87-010-194-080		CAP, CHIP 0.047
C629	87-012-368-080		C-CAP,S 0.1-50 F
C630	87-012-368-080		C-CAP,S 0.1-50 F<EZ,K>
C631	87-016-247-080		C-CAP,0.1-50 F<EZ,K>
C632	87-010-197-080		CAP, CHIP 0.01 DM<EZ,K>
C633	87-010-197-080		CAP, CHIP 0.01 DM<EZ,K>
C636	87-010-322-080		C-CAP,S 100P-50 CH<EZ,K>
C637	87-010-322-080		C-CAP,S 100P-50 CH<EZ,K>
C646	87-010-322-080		C-CAP,S 100P-50 CH
C647	87-010-322-080		C-CAP,S 100P-50 CH
C699	87-018-209-080		CAP,TC-U 0.1-50 Z F
C701	87-010-381-080		CAP, ELECT 330-16V
C702	87-010-404-080		CAP, ELECT 4.7-50V
C703	87-010-197-080		CAP, CHIP 0.01 DM
C704	87-010-197-080		CAP, CHIP 0.01 DM
C711	87-010-263-080		CAP, ELECT 100-10V
C712	87-010-196-080		CHIP CAPACITOR,0.1-25
C713	87-010-197-080		CAP, CHIP 0.01 DM
C714	87-010-197-080		CAP, CHIP 0.01 DM
C715	87-010-322-080		C-CAP,S 100P-50 CH<EZ,K,V>
C721	87-010-312-080		C-CAP,S 15P-50 CH
C722	87-010-312-080		C-CAP,S 15P-50 CH
C723	87-010-178-080		CHIP CAP 1000P
C725	87-010-178-080		CHIP CAP 1000P
C727	87-010-196-080		CHIP CAPACITOR,0.1-25
C728	87-010-248-080		CAP, ELECT 220-10V
C732	87-010-400-080		CAP, ELECT 0.47-50V<HD>
C733	87-010-404-080		CAP, ELECT 4.7-50V<HD>
C734	87-010-196-080		CHIP CAPACITOR,0.1-25<HD>
C737	87-010-182-080		C-CAP,S 2200P-50 B<HD>
C738	87-010-182-080		C-CAP,S 2200P-50 B<HD>
C740	87-010-197-080		CAP, CHIP 0.01 DM<HD>
C741	87-010-545-080		CAP, ELECT 0.22-50V<HD>
C742	87-012-140-080		C-CAP,S 470P-50 J CH<HD>
C743	87-010-404-080		CAP, ELECT 4.7-50V<HD>
C744	87-010-260-080		CAP, ELECT 47-25V<HD>
C745	87-010-545-080		CAP, ELECT 0.22-50V<HD>
C746	87-010-545-080		CAP, ELECT 0.22-50V<HD>
C747	87-010-197-080		CAP, CHIP 0.01 DM<HD>
C748	87-010-198-080		C-CAP,S 0.022-25 KB<HD>
C749	87-010-101-080		CAP, ELECT 220-16V<HD>
C755	87-010-197-080		CAP, CHIP 0.01 DM
C756	87-010-197-080		CAP, CHIP 0.01 DM
C757	87-010-318-080		C-CAP,S 47P-50 CH
C758	87-010-149-080		C-CAP,S 5P-50 CH
C759	87-012-154-080		C-CAP,S 150P-50 CH<EZ,K,V>
C760	87-012-154-080		C-CAP,S 150P-50 CH<EZ,K,V>
C761	87-010-196-080		CHIP CAPACITOR,0.1-25
C762	87-010-197-080		CAP, CHIP 0.01 DM
C763	87-010-194-080		CAP, CHIP 0.047
C765	87-010-197-080		CAP, CHIP 0.01 DM
C766	87-010-197-080		CAP, CHIP 0.01 DM
C767	87-010-405-080		CAP, ELECT 10-50V
C768	87-010-197-080		CAP, CHIP 0.01 DM
C769	87-010-408-080		CAP, ELECT 47-50V

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C770	87-015-821-080		C-CAP 0.047
C771	87-010-407-080		CAP, ELECT 33-50V
C772	87-010-194-080		CAP, CHIP 0.047
C773	87-010-196-080		CHIP CAPACITOR,0.1-25
C774	87-010-263-080		CAP, ELECT 100-10V
C775	87-010-404-080		CAP, ELECT 4.7-50V
C776	87-010-197-080		CAP, CHIP 0.01 DM
C777	87-010-400-080		CAP, ELECT 0.47-50V
C778	87-010-401-080		CAP, ELECT 1-50V
C779	87-010-401-080		CAP, ELECT 1-50V
C780	87-010-196-080		CHIP CAPACITOR,0.1-25
C781	87-010-405-080		CAP, ELECT 10-50V
C782	87-010-405-080		CAP, ELECT 10-50V
C783	87-015-819-080		CAPACITOR,0.01
C784	87-010-197-080		CAP, CHIP 0.01 DM
C785	87-010-400-080		CAP, ELECT 0.47-50V
C786	87-010-400-080		CAP, ELECT 0.47-50V
C787	87-010-184-080		CHIP CAPACITOR 3300P(K)
C788	87-010-184-080		CHIP CAPACITOR 3300P(K)
C789	87-010-179-080		CAP,CHIP S B1200P
C790	87-010-179-080		CAP,CHIP S B1200P
C791	87-010-405-080		CAP, ELECT 10-50V
C793	87-010-178-080		CHIP CAP 1000P<EXCEPT EZ>
C793	87-012-156-080		C-CAP,S 220P-50<EZ>
C794	87-010-406-080		CAP, ELECT 22-50
C795	87-010-596-080		CAP, S 0.047-16<EXCEPT HD>
C796	87-010-403-080		CAP, ELECT 3.3-50V
C797	87-010-182-080		C-CAP,S 2200P-50 B<LH,U>
C797	87-010-180-080		C-CAP,S 1500P-50 B<EXCEPT LH,U>
C798	87-010-182-080		C-CAP,S 2200P-50 B<LH,U>
C798	87-010-180-080		C-CAP,S 1500P-50 B<EXCEPT LH,U>
C799	87-010-194-080		CAP, CHIP 0.047
C812	87-010-197-080		CAP, CHIP 0.01 DM
C813	87-010-197-080		CAP, CHIP 0.01 DM
C814	87-010-197-080		CAP, CHIP 0.01 DM
C815	87-010-197-080		CAP, CHIP 0.01 DM
C816	87-010-197-080		CAP, CHIP 0.01 DM
C817	87-010-197-080		CAP, CHIP 0.01 DM<EZ,K>
C818	87-010-197-080		CAP, CHIP 0.01 DM<EZ,K>
C819	87-010-197-080		CAP, CHIP 0.01 DM
C820	87-010-408-080		CAP, ELECT 47-50V
C821	87-010-197-080		CAP, CHIP 0.01 DM
C822	87-010-197-080		CAP, CHIP 0.01 DM
C823	87-010-197-080		CAP, CHIP 0.01 DM
C828	87-010-196-080		CHIP CAPACITOR,0.1-25
C829	87-010-196-080		CHIP CAPACITOR,0.1-25
C859	87-010-197-080		CAP, CHIP 0.01 DM<EZ>
C861	87-012-156-080		C-CAP,S 220P-50 CH<EZ>
C862	87-012-156-080		C-CAP,S 220P-50 CH<EZ>
C863	87-012-140-080		CAP, 470P CH<EZ>
C864	87-010-405-080		CAP, ELECT 10-50V<EZ>
C865	87-010-196-080		CHIP CAPACITOR,0.1-25<EZ>
C866	87-010-405-080		CAP, ELECT 10-50V<EZ>
C867	87-010-197-080		CAP, CHIP 0.01 DM<EZ>
C868	87-010-316-080		C-CAP,S 33P-50 CH<EZ>
C869	87-010-314-080		C-CAP,S 22P-50V CH<EZ>
C940	87-010-197-080		CAP, CHIP 0.01 DM<EZ,K,V,HR>
C941	87-010-314-080		C-CAP,S 22P-50V CH<HR>
C942	87-010-151-080		C-CAP,S 7P-50 CH<EZ,K,V>
C943	87-010-197-080		CAP, CHIP 0.01 DM<HR>
C944	87-014-051-080		CAPACITOR (PP) 560P<HR>
C945	87-010-197-080		CAP, CHIP 0.01 DM<HR>
C947	87-010-197-080		CAP, CHIP 0.01 DM<EZ,K,V,HR>
C949	87-014-049-080		CAP,PP 470P-100 J<EZ,K,V>
C950	87-014-073-080		CAP,PP 4700P-100 J<HR>
C952	87-010-197-080		CAP, CHIP 0.01 DM<EZ,K,V,HR>
C953	87-010-197-080		CAP, CHIP 0.01 DM<HR>
C954	87-010-404-080		CAP, ELECT 4.7-50V<HR>
C956	87-010-197-080		CAP, CHIP 0.01 DM<EZ,K,V>
C956	87-010-263-080		CAP,E 100-10V<HR>

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C957	87-010-311-080		C-CAP,S 12P-50 J CH<EZ,K,V>
C958	87-010-197-080		CAP, CHIP 0.01 DM<EZ,K,V>
C959	87-010-196-080		CHIP CAPACITOR,0.1-25
C960	87-010-196-080		CHIP CAPACITOR,0.1-25
C961	87-010-152-080		C-CAP,S 8P-50 CH
C962	87-010-401-080		CAP, ELECT 1-50V<HR,EZ,K,V>
CF801	87-008-261-010		FILTER,SFE10.7MA5-A<EXCEPT EZ,K,V>
CF801	87-008-423-010		FILTER,IF SFE10.7MS3G-A<EZ,K,V>
CF802	87-008-261-010		FILTER,SFE10.7MA5-A<EXCEPT EZ,K,V>
CF802	87-785-747-010		CF MS2 GHY R<EZ,K,V>
CON102	87-NF4-645-010		CONN ASSY 4P SP
CON351	86-NF5-618-110		CONN ASSY,8P RPB
FB301	87-008-372-080		FLTR,EM1BLO1 RN1<EZ,K>
FB616	87-008-372-080		FLTR,EM1BLO1 RN1
FB617	87-008-372-080		FLTR,EM1BLO1 RN1
FB646	87-008-372-080		FLTR,EM1BLO1 RN1
FFE801	A8-7ZA-290-030		7ZA-2 FEUNM<LH,HR,U>
FFE801	A8-6ZA-191-030		6ZA-1 FEENM<EZ,K>
FFE801	A8-6ZA-193-030		6ZA-1 FEVNM<V>
FFE801	A8-6ZA-19D-070		6ZA-1 YFEJNC<HD>
J252	87-A60-031-010		JACK,6.3 BLK ST W/S
J253	87-099-474-010		JACK,PIN 3P BLK W/SW<EXCEPT EZ>
J253	87-A60-401-010		JACK,PIN 3P B/R/W HS<EZ,K,V>
J254	87-A60-238-010		TERMINAL,SP 4P (MSC)
J601	87-099-625-010		JACK PIN 4P,RVS (KM)
J801	87-A60-202-010		TERMINAL,ANT 4P<EXCEPT EZ,K,V>
J801	87-A60-403-010		TERMINAL,ANT PAL 2P<EZ,K>
J801	87-033-239-010		TERMINAL,ANT 4P HSP-154<V>
L201	87-003-383-010		COIL,1UH-S
L202	87-003-383-010		COIL,1UH-S
L301	87-A50-049-010		COIL,TRAP 85K(COI)
L302	87-A50-049-010		COIL,TRAP 85K(COI)
L351	87-007-342-010		COIL,OSC 85K BIAS
L601	87-003-231-080		C-COIL,2125 1UH
L770	87-005-847-080		COIL,2.2UH(CECS)
L771	87-A50-165-010		COIL,FM DET-N(TOK)
L772	87-A90-245-010		FLTR,CFAZH-450(TOK)<EXCEPT HD,HR>
L772	87-A90-052-010		FLTR,CFMT-450A(TOK)<HD,HR>
L791	87-003-293-010		COIL, TRAP MPX<U,LH>
L791	87-A50-027-010		COIL, 1 POLE MPX<EXCEPT U,LH>
L792	87-003-293-010		COIL, TRAP MPX<U,LH>
L792	87-A50-027-010		COIL, 1 POLE MPX<EXCEPT U,LH>
L832	87-005-847-080		COIL,2.2UH(CECS)
L850	87-005-847-080		COIL,2.2UH(CECS)<EZ>
L940	81-754-629-010		CONNECTOR XH 2P(UL)<HR>
L941	87-A50-020-010		COIL,ANT LW (COI)252KHZ<EZ,K,V>
L941	81-A50-022-010		COIL,ANT SW (COI)7.96MHZ<HR>
L942	81-A50-173-010		COIL,OSC SW-N (COI)<HR>
L942	87-A50-019-010		COIL,OSC LW (COI)856KHZ<EZ,K,V>
L943	87-005-372-080		COIL S 1MUH<HR>
L944	87-A50-159-010		COIL,10UH<HR>
L981	87-NF4-650-010		COIL,AM PACK 4N(TOK)<LH,U,HD>
L981	86-NF4-666-010		COIL,AM PACK 3(TOK)<HR>
L981	86-NF4-668-010		COIL,AM PACK 2(TOM)<EZ,K,V>
! PR201	87-026-682-080		PROTECTOR,10A 60V 491<EXCEPT U>
! PR201	87-026-691-080		FUSE,10A 125V 251<U>
! PR202	87-026-682-080		PROTECTOR,10A 60V 491<EXCEPT U>
! PR202	87-026-691-080		FUSE,10A 125V 251<U>
R123	87-022-200-080		RESISTOR, METAL 0.56 1W
R231	87-A00-262-080		RES,M/F 0.15-2W J
R232	87-A00-262-080		RES,M/F 0.15-2W J
RY101	87-045-389-010		RELAY,OSA-SS-212DM5
RY201	87-045-382-010		RELAY,12V OUAZ-SH-112L
SFR301	87-024-435-080		SFR 33K RH 063EC
SFR302	87-024-435-080		SFR 33K RH 063EC
SFR303	87-024-435-080		SFR 33K RH 063EC
SFR304	87-024-435-080		SFR 33K RH 063EC
SFR305	87-024-436-080		SFR,47K RH063EC
SFR306	87-024-436-080		SFR,47K RH063EC
SFR351	87-024-436-080		SFR,47K RH063EC

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
SFR352	87-024-436-080		SFR,47K RH063EC
TC941	87-011-220-080		TRIMMER,CER 20P 6.15X5.9<HR>
TC942	87-011-221-080		TRIMMER,CER 30P<HR,EZ,K,V>
TH201	87-A90-221-080		C-THMS,100K<EXCEPT U>
TH202	87-A90-221-080		C-THMS,100K<EXCEPT U>
W4	88-906-261-110		FF-CABLE,6P 1.25 260MM
X721	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309
X750	87-030-394-010		VIB,CER 3.5498MHZ CSA-228<HD>
X771	87-030-354-010		VIB,CER 450.0KHZ BFU<HR>
X850	87-KT1-608-010		XTAL 4.332MHZ<EZ>
FRONT C.B			
C121	87-010-196-080		CHIP CAPACITOR,0.1-25
C201	87-010-197-080		CAP, CHIP 0.01 DM
C202	87-010-197-080		CAP, CHIP 0.01 DM
C203	87-010-198-080		CAP, CHIP 0.022
C204	87-010-198-080		CAP, CHIP 0.022
C205	87-010-198-080		CAP, CHIP 0.022
C206	87-010-198-080		CAP, CHIP 0.022
C208	87-010-555-040		CAP,E 100-10 GAS
C209	87-010-196-080		CHIP CAPACITOR,0.1-25
C210	87-010-494-040		CAP,E 1-50 GAS
C211	87-010-196-080		CHIP CAPACITOR,0.1-25
C212	87-A10-189-040		CAP,E 220-10
C213	87-010-178-080		CHIP CAP 1000P
C214	87-010-196-080		CHIP CAPACITOR,0.1-25
C215	87-010-194-080		CAP, CHIP 0.047
C216	87-010-197-080		CAP, CHIP 0.01 DM
C217	87-010-494-040		CAP,E 1-50 GAS
C218	87-010-196-080		CHIP CAPACITOR,0.1-25
C219	87-010-196-080		CHIP CAPACITOR,0.1-25
C220	87-010-320-080		CHIP CAP 68P
C221	87-010-312-080		C-CAP,S 15P-50 CH
C222	87-010-316-080		C-CAP,S 33P-50 CH
C224	87-010-112-040		CAP,E 100-16
C225	87-010-560-040		CAP,E 10-50 GAS
C226	87-010-178-080		CHIP CAP 1000P
C351	87-010-497-040		CAP,E 4.7-35 GAS
C352	87-010-497-040		CAP,E 4.7-35 GAS
C353	87-010-981-040		CAP,E 22-35 5L SRE
C363	87-012-156-080		C-CAP,S 220P-50 CH
C364	87-012-156-080		C-CAP,S 220P-50 CH
C381	87-010-196-080		CHIP CAPACITOR,0.1-25
C382	87-010-196-080		CHIP CAPACITOR,0.1-25
C383	87-010-196-080		CHIP CAPACITOR,0.1-25
C384	87-010-196-080		CHIP CAPACITOR,0.1-25
C385	87-010-322-080		C-CAP,S 100P-50 CH
C386	87-015-694-040		E/CAP 0.47-50
C387	87-010-400-040		CAP,E 0.47-50
C389	87-010-196-080		CHIP CAPACITOR,0.1-25
C401	87-010-196-080		CHIP CAPACITOR,0.1-25
C402	87-010-196-080		CHIP CAPACITOR,0.1-25
C403	87-010-196-080		CHIP CAPACITOR,0.1-25
C601	87-010-405-040		CAP,E 10-50
C602	87-010-176-080		C-CAP,S 680P-50 SL
C603	87-010-186-080		CAP,CHIP 4700P
C604	87-010-322-080		C-CAP,S 100P-50 CH
C605	87-010-321-080		CHIP CAPACITOR,82P(J)
C606	87-010-196-080		CHIP CAPACITOR,0.1-25
C607	87-010-196-080		CHIP CAPACITOR,0.1-25
C608	87-010-322-080		C-CAP,S 100P-50 CH
C609	87-010-545-040		CAP,E 0.22-50 SME
C610	87-010-177-080		C-CAP,S 820P-50 SL
C611	87-010-406-040		CAP,E 22-50 SME
C614	87-010-248-040		CAP,E 220-10 SME
C615	87-010-498-040		CAP,E 10-16 GAS
C619	87-016-461-080		CHIP-CAPACITOR,0.47-16F
C701	87-010-421-040		CAP,E 4.7-50 5L
C702	87-010-112-040		CAP,E 100-16

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C705	87-010-493-040		CAP,E 0.47-50 GAS
C706	87-010-196-080		CHIP CAPACITOR,0.1-25
C707	87-010-196-080		CHIP CAPACITOR,0.1-25
C708	87-010-400-040		CAP,E 0.47-50
C709	87-010-198-080		CAP, CHIP 0.022
C710	87-010-400-040		CAP,E 0.47-50
C711	87-010-197-080		CAP, CHIP 0.01 DM
C712	87-010-196-080		CHIP CAPACITOR,0.1-25
C713	87-010-185-080		C-CAP,S 3900P-50 B
C714	87-010-596-080		CAP, S 0.047-16
C715	87-010-181-080		CAP,CHIP S 1800P
C716	87-010-198-080		CAP, CHIP 0.022
C717	87-010-176-080		C-CAP,S 680P-50 SL
C718	87-010-188-080		CAP,CHIP 6800P
C719	87-012-145-080		CAP, CHIP S 270P CH
C720	87-010-183-080		C-CAP,S 2700P-50 B
C721	87-015-696-040		CAP,E 2.2-50 SRA
C722	87-015-696-040		CAP,E 2.2-50 SRA
C723	87-015-681-040		E/CAP 10-16
C724	87-010-198-080		CAP, CHIP 0.022
C725	87-010-493-040		CAP,E 0.47-50 GAS
C726	87-010-197-080		CAP, CHIP 0.01 DM
C727	87-010-196-080		CHIP CAPACITOR,0.1-25
C728	87-010-185-080		C-CAP,S 3900P-50 B
C729	87-010-596-080		CAP, S 0.047-16
C730	87-010-181-080		CAP,CHIP S 1800P
C731	87-010-198-080		CAP, CHIP 0.022
C732	87-010-176-080		C-CAP,S 680P-50 SL
C733	87-010-188-080		CAP,CHIP 6800P
C734	87-012-145-080		CAP, CHIP S 270P CH
C735	87-010-183-080		C-CAP,S 2700P-50 B
C809	87-012-365-080		C-CAP,S 0.027-25VBK
C810	87-012-365-080		C-CAP,S 0.027-25VBK
C811	87-A10-201-080		C-CAP,S0.33-16 KB
C812	87-A10-201-080		C-CAP,S0.33-16 KB
C813	87-010-196-080		CHIP CAPACITOR,0.1-25
C814	87-015-680-040		CAP,E 47-10 7L
C815	87-010-234-040		CAP,E 47-16 5L
C816	87-010-196-080		CHIP CAPACITOR,0.1-25
C817	87-016-081-080		C-CAP,S 0.1-16 RK
C818	87-010-560-040		CAP,E 10-50 GAS
C901	87-010-319-080		C,CAP,S 56P-50 J CH
C902	87-010-319-080		C,CAP,S 56P-50 J CH
C903	87-012-141-080		C,CAP,S 0.22-16ZF
C904	87-010-188-080		CAP CHIP 6800P
C905	87-010-180-080		C,CAP,S 1500P-50 KB
C906	87-010-197-080		CHIP CAPACITOR,0.0 1DM
C907	87-010-197-080		CHIP CAPACITOR,0.0 1DM
C908	87-010-188-080		CAP CHIP 6800P
C909	87-010-181-080		CAP CHIP S 1800P
C910	87-010-196-080		CHIP CAPACITOR,0.1-25
C911	87-010-196-080		CHIP CAPACITOR,0.1-25
C912	87-010-408-040		CAP,E 47-50 M SME
C913	87-010-401-040		CAP,E 1-50 M SME
C914	87-010-494-040		CAP,E 1-50 5L SRE
C915	87-010-184-080		C,CAP,S 3300P-50 KB
C916	87-010-184-080		C,CAP,S 3300P-50 KB
C917	87-012-141-080		C,CAP,S 0.22-16ZF
C919	87-010-263-040		CAP,E 100-10 M SME
C920	87-010-322-080		C-CAP,S 100P-50 J CH
C921	87-010-322-080		C-CAP,S 100P-50 J CH
C922	87-010-322-080		C-CAP,S 100P-50 J CH
FB601	87-008-372-080		FILTER, EMI BL OIRNI
FL301	86-NF9-653-010		FL,BJ539GK
FL302	86-NF9-616-010		FL,BJ504GK
J601	87-A60-284-010		JACK,3.5MO (MSC)
J621	87-A60-284-010		JACK,3.5MO (MSC)
L901	87-005-212-080		COIL,220UH K EL0606
LED401	87-070-281-080		LED,SLZ736A-25-S-T1
LED402	87-070-281-080		LED,SLZ736A-25-S-T1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
LED403	87-070-281-080		LED,SLZ736A-25-S-T1
LED404	87-070-281-080		LED,SLZ736A-25-S-T1
LED405	87-070-281-080		LED,SLZ736A-25-S-T1
LED406	87-070-281-080		LED,SLZ736A-25-S-T1
LED407	87-017-979-010		LED,SEL2413E
LED408	87-017-979-010		LED,SEL2413E
LED409	87-017-979-010		LED,SEL2413E
LED410	87-017-979-010		LED,SEL2413E
LED411	87-017-979-010		LED,SEL2413E
LED412	87-017-979-010		LED,SEL2413E
LED413	87-017-979-010		LED,SEL2413E
LED414	87-017-979-010		LED,SEL2413E
LED420	87-A40-259-080		LED,SLR-342VCT31 RED
LED421	87-A40-259-080		LED,SLR-342VCT31 RED
LED422	87-A40-259-080		LED,SLR-342VCT31 RED
LED423	87-A40-259-080		LED,SLR-342VCT31 RED
LED425	87-070-278-010		LED,SLZ-738A-24-S
LED426	87-070-278-010		LED,SLZ-738A-24-S
LED427	87-070-290-010		LED,SLZ 936-30-S
LED428	87-070-290-010		LED,SLZ 936-30-S
LED429	87-070-278-010		LED,SLZ-738A-24-S
LED430	87-070-278-010		LED,SLZ-738A-24-S
⚠ PR101	87-026-689-080		PROTECTOR,1A 49 60 V<EXCEPT U>
R341	87-022-355-080		C-RES,S10K-1/10W F
R342	87-022-355-080		C-RES,S10K-1/10W F
R343	87-022-355-080		C-RES,S10K-1/10W F
S301	87-A90-095-080		SW,TACT EVQ11G04M
S302	87-A90-095-080		SW,TACT EVQ11G04M
S303	87-A90-095-080		SW,TACT EVQ11G04M
S304	87-A90-095-080		SW,TACT EVQ11G04M
S305	87-A90-095-080		SW,TACT EVQ11G04M
S306	87-A90-095-080		SW,TACT EVQ11G04M
S307	87-A90-095-080		SW,TACT EVQ11G04M
S308	87-A90-095-080		SW,TACT EVQ11G04M
S309	87-A90-095-080		SW,TACT EVQ11G04M
S310	87-A90-095-080		SW,TACT EVQ11G04M
S311	87-A90-095-080		SW,TACT EVQ11G04M
S312	87-A90-095-080		SW,TACT EVQ11G04M
S313	87-A90-095-080		SW,TACT EVQ11G04M
S314	87-A90-095-080		SW,TACT EVQ11G04M
S315	87-A90-095-080		SW,TACT EVQ11G04M
S316	87-A90-095-080		SW,TACT EVQ11G04M
S317	87-A90-095-080		SW,TACT EVQ11G04M
S318	87-A90-095-080		SW,TACT EVQ11G04M
S319	87-A90-095-080		SW,TACT EVQ11G04M
S320	87-A90-095-080		SW,TACT EVQ11G04M
S321	87-A90-095-080		SW,TACT EVQ11G04M
S322	87-A90-095-080		SW,TACT EVQ11G04M
S323	87-A90-095-080		SW,TACT EVQ11G04M
S324	87-A90-095-080		SW,TACT EVQ11G04M
S325	87-A90-095-080		SW,TACT EVQ11G04M
S326	87-A90-095-080		SW,TACT EVQ11G04M<EZ>
S327	87-A90-095-080		SW,TACT EVQ11G04M<EZ>
S328	87-A90-095-080		SW,TACT EVQ11G04M<EZ>
S329	87-A90-095-080		SW,TACT EVQ11G04M
S330	87-A90-095-080		SW,TACT EVQ11G04M
S331	87-A90-095-080		SW,TACT EVQ11G04M
S332	87-A90-095-080		SW,TACT EVQ11G04M
S333	87-A90-095-080		SW,TACT EVQ11G04M
S334	87-A90-095-080		SW,TACT EVQ11G04M
S335	87-A90-095-080		SW,TACT EVQ11G04M
S336	87-A90-095-080		SW,TACT EVQ11G04M
S337	87-A90-095-080		SW,TACT EVQ11G04M
SW201	87-A90-392-010		SW,RTRY EC16B24304-20 NON
VR601	86-NFA-607-010		VR,RTRY 10K15AX1 1 V XV0121PVN
W2	87-A80-052-010		FF-CABLE, 14P 1.25 280MM BLK
W3	87-A80-053-010		FF-CABLE, 8P 1.25 200MM BLK
W5	88-913-191-110		FF-CABLE,13P 1.25
W6	88-915-161-110		FF-CABLE, 15P 1.25
X201	87-A70-070-080		VIB,CER 5.76MHZ CRHF

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
VR C.B			
SW202	87-A90-340-010		SW,RTRY EC16B24204-15
CD KEY C.B			
LED451	87-017-979-010		LED,SEL2413E
LED452	87-017-979-010		LED,SEL2413E
LED453	87-017-979-010		LED,SEL2413E
LED454	87-017-979-010		LED,SEL2413E
LED455	87-017-979-010		LED,SEL2413E
LED456	87-017-979-010		LED,SEL2413E
LED457	87-017-979-010		LED,SEL2413E
LED458	87-017-979-010		LED,SEL2413E
LED459	87-017-979-010		LED,SEL2413E
LED460	87-017-979-010		LED,SEL2413E
S451	87-A90-095-080		SW,TACT EVQ11G04M
S452	87-A90-095-080		SW,TACT EVQ11G04M
S453	87-A90-095-080		SW,TACT EVQ11G04M
S454	87-A90-095-080		SW,TACT EVQ11G04M
S455	87-A90-095-080		SW,TACT EVQ11G04M
S456	87-A90-095-080		SW,TACT EVQ11G04M
S457	87-A90-095-080		SW,TACT EVQ11G04M
AC2 C.B			
⚠ PR1	87-026-692-080		FUSE,10A 491 60V<LH,HR,HD>
⚠ PR1	87-026-691-080		FUSE,10A 125V 251<U>
⚠ PR1	87-026-682-080		PROTECTOR,10A 491 60V<EZ,K,V>
⚠ PR2	87-026-692-080		FUSE,10A 491 60V<LH,HR,HD>
⚠ PR2	87-026-691-080		FUSE,10A 125V 251<U>
⚠ PR2	87-026-682-080		PROTECTOR,10A 491 60V<EZ,K,V>
⚠ PR5	87-026-692-080		FUSE,10A 491 60V<LH,HR,HD>
⚠ PR5	87-026-691-080		FUSE,10A 125V 251<U>
⚠ PR5	87-026-682-080		PROTECTOR,10A 491 60V<EZ,K,V>
⚠ PR6	87-026-692-080		FUSE,10A 491 60V<LH,HR,HD>
⚠ PR6	87-026-691-080		FUSE,10A 125V 251<U>
⚠ PR6	87-026-682-080		PROTECTOR,10A 491 60V<EZ,K,V>
⚠ W1	85-NF5-628-010		F-CABLE 7P-2.5
PT C.B			
⚠ F101	87-035-368-010		FUSE,4A 250V T<EXCEPT U>
⚠ F101	87-035-493-010		FUSE,8A 125V T-237<U>
⚠ F102	87-035-368-010		FUSE,4A 250V T<LH,HR,HD>
⚠ FC1	87-033-213-080		CLAMP, FUSE
⚠ FC2	87-033-213-080		CLAMP, FUSE
⚠ FC3	87-033-213-080		CLAMP, FUSE<LH,HR,HD>
⚠ FC4	87-033-213-080		CLAMP, FUSE<LH,HR,HD>
⚠ PT101	86-NF9-636-010		PT,6NF-9 LH N<LH>
⚠ PT101	86-NF9-635-010		PT,6NF-9 HN<HR>
⚠ PT101	86-NF9-637-010		PT,6NF-9 EN<EZ,K,V>
⚠ PT101	86-NF9-638-010		PT,6NF-9 UN<U>
⚠ PT101	86-NF9-639-010		PT,6NF-9 HD N<HD>
⚠ T1	87-A60-317-010		TERMINAL, 1P MSC
⚠ T2	87-A60-317-010		TERMINAL, 1P MSC
⚠ SW101	87-A90-165-010		SW,SL1-2-3 SW S 2301<LH,HR>
⚠ SW101	87-A90-234-010		SW,SL1-2-2<HD>
DECK C.B			
W001	82-ZM3-601-019		RBN,CORD,4P-75
SFR1	87-024-581-019		SFR,3.3K DIA 6H
SOL1	82-ZM1-618-310		SOL ASSY, 27
SOL2	82-ZM1-618-310		SOL ASSY, 27
SW1	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW2	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW3	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW4	87-036-110-010		SW,MICRO SPPB62
SW5	87-036-110-010		SW,MICRO SPPB62

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
SW6	87-036-110-010		SW,MICRO SPPB62
SW8	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW9	87-036-110-010		SW,MICRO SPPB62
CON502	87-099-756-019		CONN, 15P 9604 S F

HEAD-1 C.B

	85-ZM3-602-010		PWB,FLEX A

HEAD-2 C.B

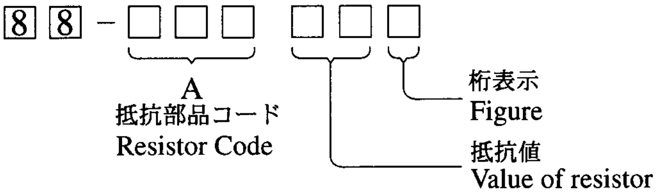
	85-ZM3-602-010		PWB,FLEX A

FAN C.B

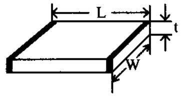
RY103	87-A90-143-010		RELAY,DG12D2-OS(M)<U>

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

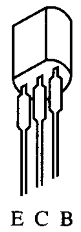
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding


8 8 - □□□ □□□ □
A
抵抗部品コード
Resistor Code
桁表示
Figure
抵抗値
Value of resistor

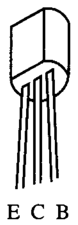
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード : A Resistor Code : A
				外形／Form	L	W	t	
1/16W	1608	±5%	CJ		1.6	0.8	0.45	108
1/10W	2125	±5%	CJ		2	1.25	0.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION



2SA1296GR
KTA1266GR
KTC3198GR



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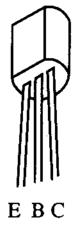
CSB1058B



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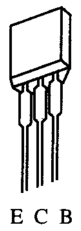

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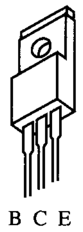
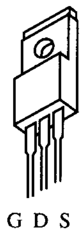
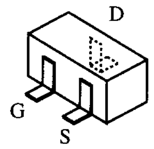


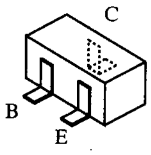
2SB1370
FN1016
FP1016



2SK2723



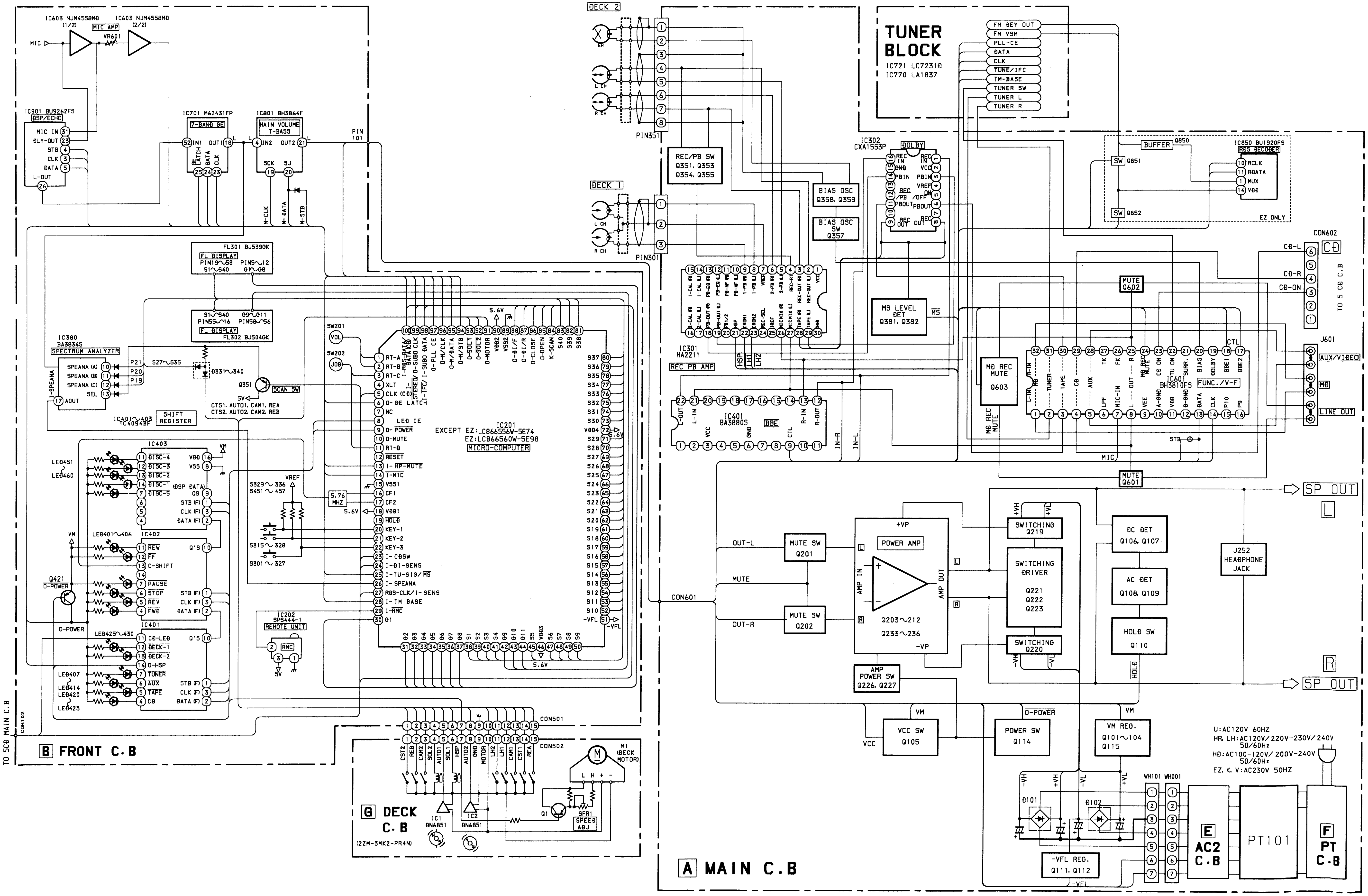
2SK2158
2SK543



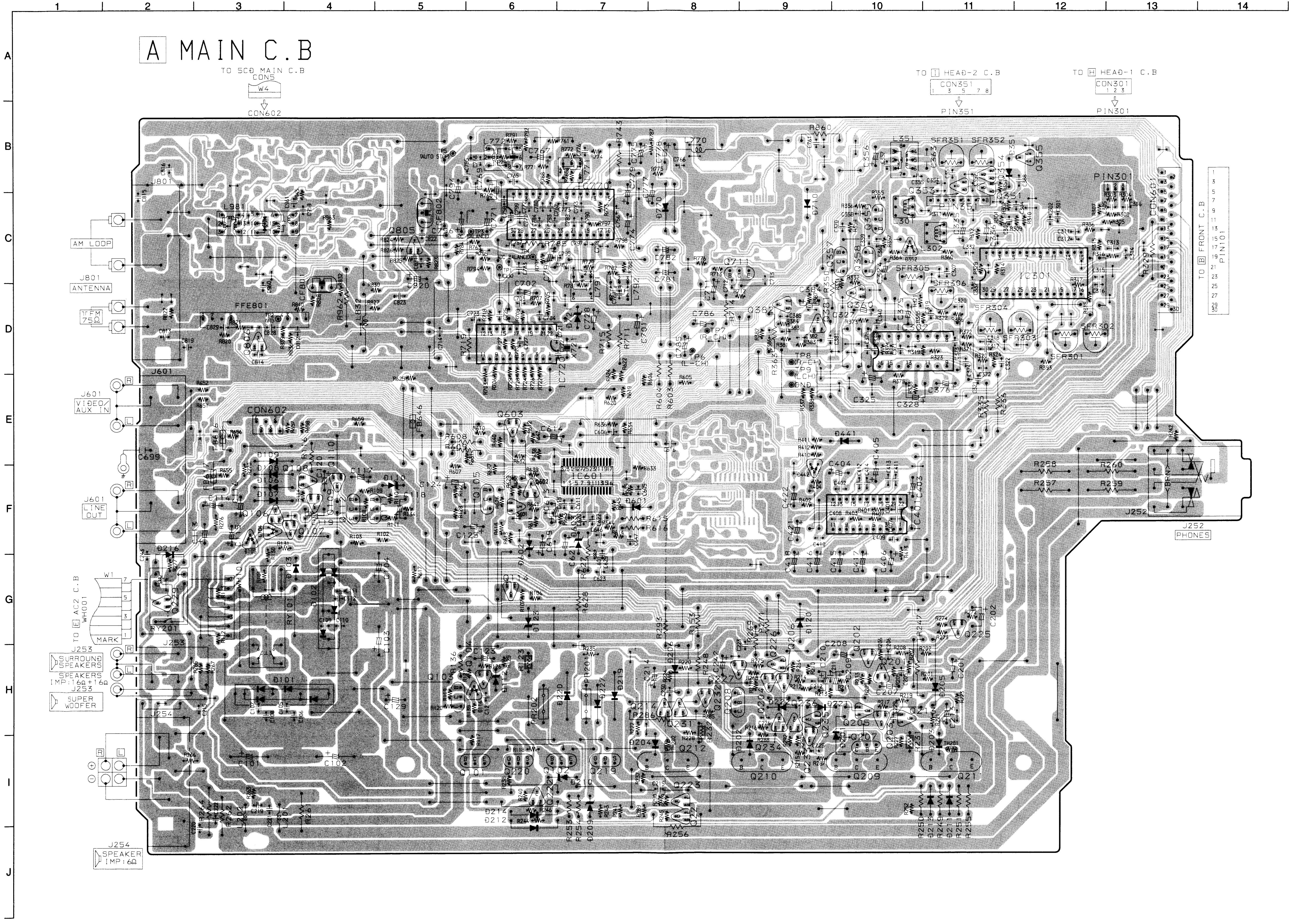
2SA1235F
2SC2714
2SC3052F
CMBT5551
CSA1362GR
CSD1306E

RN1410
RT1P144C
RT1N141C
RT1N144C
RT1P141C
DTA124EK
DTA143EK

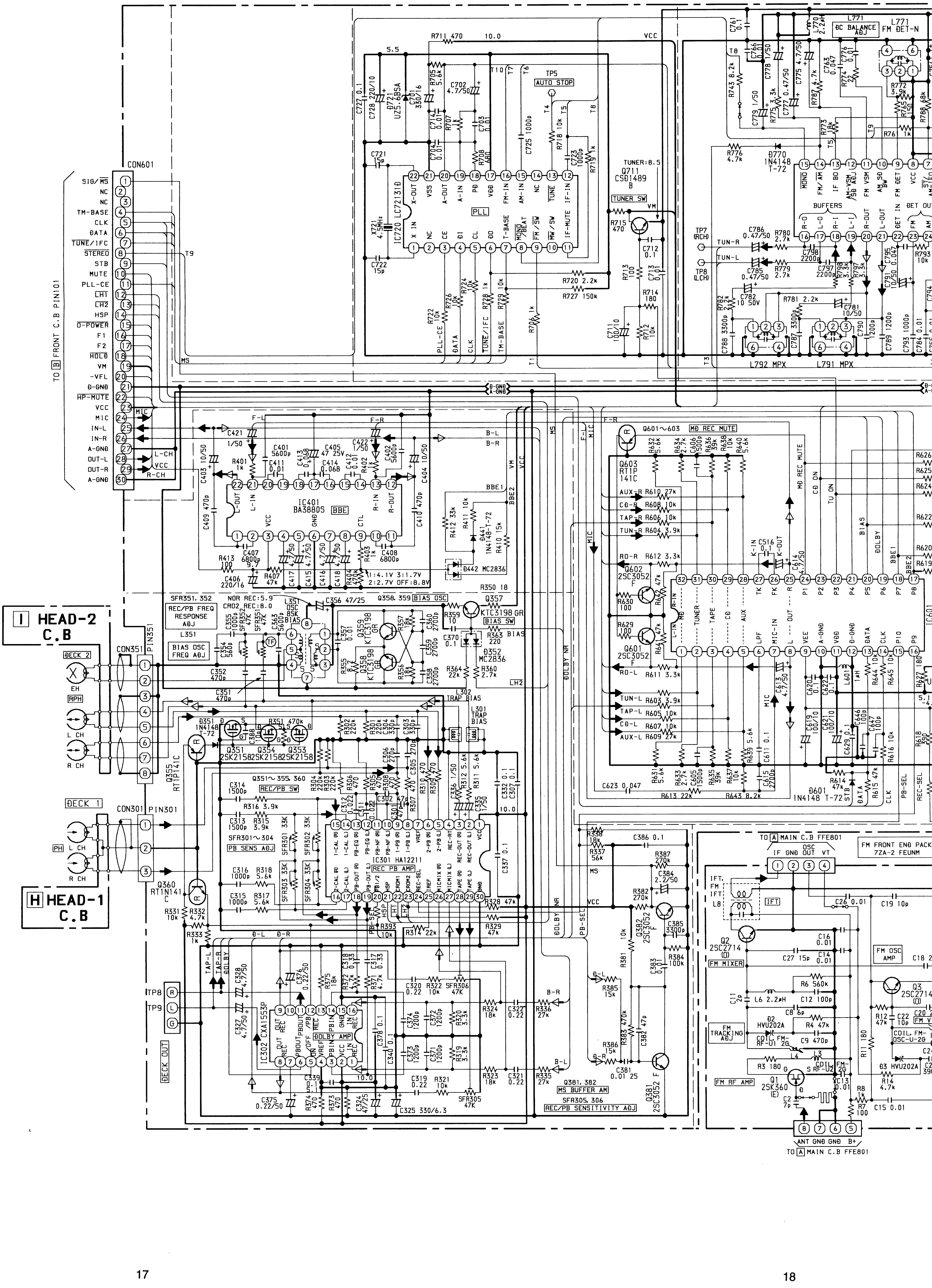
BLOCK DIAGRAM – 1 (MAIN / FRONT)


IC603 NJM4558MD (1/2)
IC603 NJM4558MD (2/2)
MIC AMP
VR601
MIC
IC901 BU9262FS
DSP/ECHO
MIC IN
DLY-OUT
STB
CLK
DATA
L-OUT
IC701 M62431FP
7-BAND GE
IN1
OUT1
LATCH
DATA
CLK
IC801 BH3864F
MAIN VOLUME
T-BASS
IN2
OUT2
SCK
SJ
PIN 101
M-CLK
M-DATA
M-STB
FL301 BJ539GK
FL DISPLAY
FL302 BJ504GK
IC380 BA3834S
SPECTRUM ANALYZER
SPEANA (A)
SPEANA (B)
SPEANA (C)
SEL
AOUT
I-SPEANA
D331~340
Q351
SCAN SW
CTS1, AUTO1, CAM1, REA
CTS2, AUTO2, CAM2, REB
IC401~403 TC4094BF
SHIFT REGISTER
IC403
LED451 ~ LED460
DISC-4
DISC-3
DISC-2
DISC-1
DISC-5
IC402
LED401~406
REW
FF
C-SHIFT
PAUSE
STOP
REV
FWD
Q421
O-POWER
IC401
LED425~430
CD-LED
DECK-1
DECK-2
O-HSP
TUNER
AUX
TAPE
CD
LED407 ~ LED414
LED420 ~ LED423
SW201 VOL
SW202 JOG
S329~336
S451~457
S315~328
S301~327
5.76 MHZ
VREF
IC202 SPS444-1
REMOTE UNIT
RMC
IC201
EXCEPT EZ:LC866556W-5E74
EZ:LC866560W-5E98
MICRO-COMPUTER
RT-A
RT-B
RT-C
XLT
CLK (CD)
O-DE LATCH
NC
LED CE
O-POWER
O-MUTE
RT-D
RESET
I-HP-MUTE
I-MIC
VSS1
CF1
CF2
VDD1
HOLD
KEY-1
KEY-2
KEY-3
I-CDSW
I-D1-SENS
I-TU-SIG/MS
I-SPEANA
RDS-CLK/I-SENS
I-TM BASE
I-RMC
G1
5.6V
-VFL
TO 5CD MAIN C.B
CON102
CON501
CON502
B FRONT C.B
G DECK C.B
(2ZM-3MK2-PR4N)
M1 (DECK MOTOR)
IC1 DN6851
IC2 DN6851
Q1
SFR1 SPEED ADJ
DECK 2
DECK 1
PIN351
PIN301
REC/PB SW Q351, Q353 Q354, Q355
BIAS OSC Q358, Q359
BIAS OSC SW Q357
IC302 CXA1553P
DOLBY
MS LEVEL DET Q381, Q382
MS
IC301 HA2211
REC PB AMP
IC401 BA3880S
BBE
TUNER BLOCK
IC721 LC72310
IC770 LA1837
FM DET OUT
FM VSM
PLL-CE
DATA
CLK
TUNE/IFC
TM-BASE
TUNER SW
TUNER L
TUNER R
BUFFER
Q850
SW Q851
SW Q852
IC850 BU1920FS
RDS DECODER
RCLK
RDATA
MUX
VDD
EZ ONLY
CON602
CD-L
CD-R
CD-ON
CD
TO 5 CD C.B
MUTE Q602
MD REC MUTE Q603
IC601 BH3810FS
FUNC./V-F
J601
AUX/VIDEO
MD
LINE OUT
MUTE Q601
MIC
STB
SP OUT
L
R
CON601
OUT-L
MUTE
OUT-R
MUTE SW Q201
MUTE SW Q202
POWER AMP
+VP
-VP
AMP IN
AMP OUT
Q203~212
Q233~236
AMP POWER SW Q226, Q227
SWITCHING Q219
SWITCHING DRIVER Q221 Q222 Q223
SWITCHING Q220
DC DET Q106, Q107
AC DET Q108, Q109
HOLD SW Q110
J252 HEADPHONE JACK
VCC SW Q105
POWER SW Q114
O-POWER
VM REG. Q101~104 Q115
-VFL REG. Q111, Q112
WH101
WH001
D101
D102
U:AC120V 60HZ
HR, LH:AC120V/220V-230V/240V 50/60Hz
HD:AC100-120V/200V-240V 50/60Hz
EZ, K, V:AC230V 50HZ
E AC2 C.B
PT101
F PT C.B
A MAIN C.B

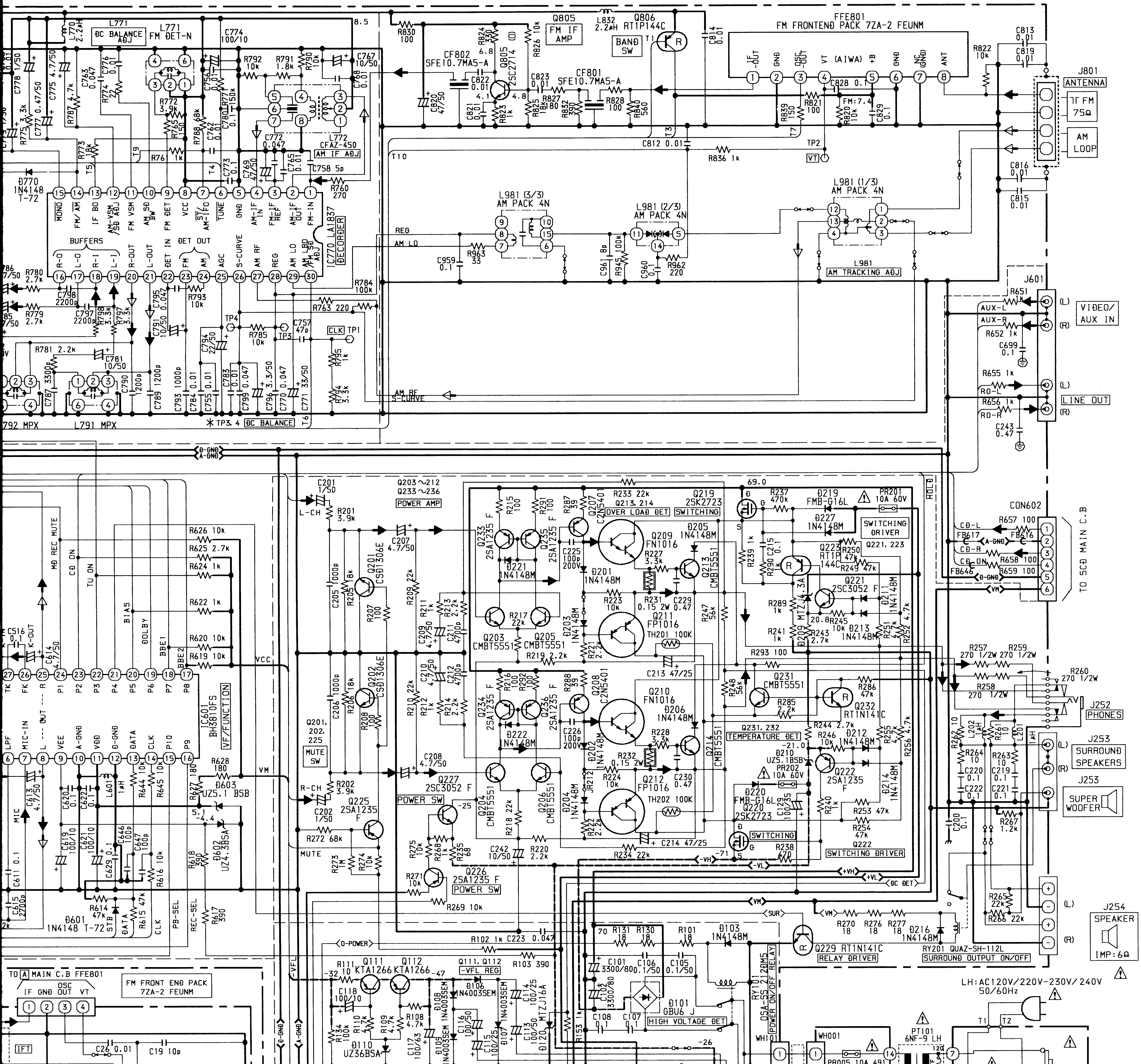
WIRING – 1 (MAIN : LH)


A MAIN C.B
TO SCD MAIN C.B
CON5
W4
CON602
TO I HEAD-2 C.B
CON351
1 3 5 7 8
PIN351
TO H HEAD-1 C.B
CON301
1 2 3
PIN301
TO B FRONT C.B
PIN101
CON601
AM LOOP
J801
ANTENNA
FM 75Ω
J601
VIDEO/ AUX IN
J601
LINE OUT
TO E AC2 C.B
WH001
W1
MARK
J253
SURROUND SPEAKERS
SPEAKERS IMP:16Ω+16Ω
J253
SUPER WOOFER
J254
SPEAKER IMP:6Ω
J252
PHONES
IC601
IC301
IC302
IC701
IC721
RY101
RY201
FFE801
L981
Q805
CF802
CF801
TP8
TP9
GND
TP6 (L-CH)
TP7 (R-CH)
AUTO STOP
DC BALANCE
1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J

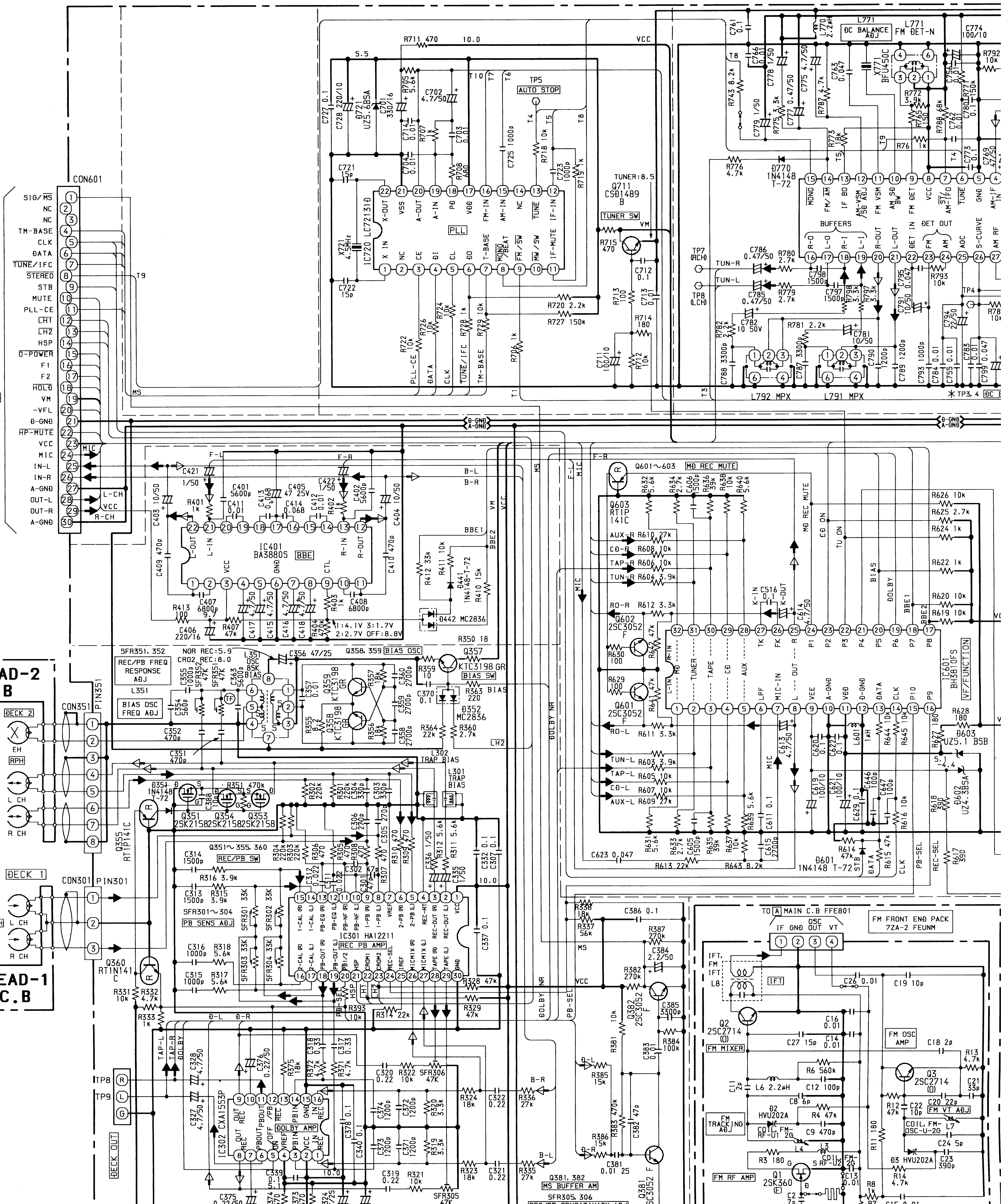
SCHEMATIC DIAGRAM – 1 (MAIN : LH)



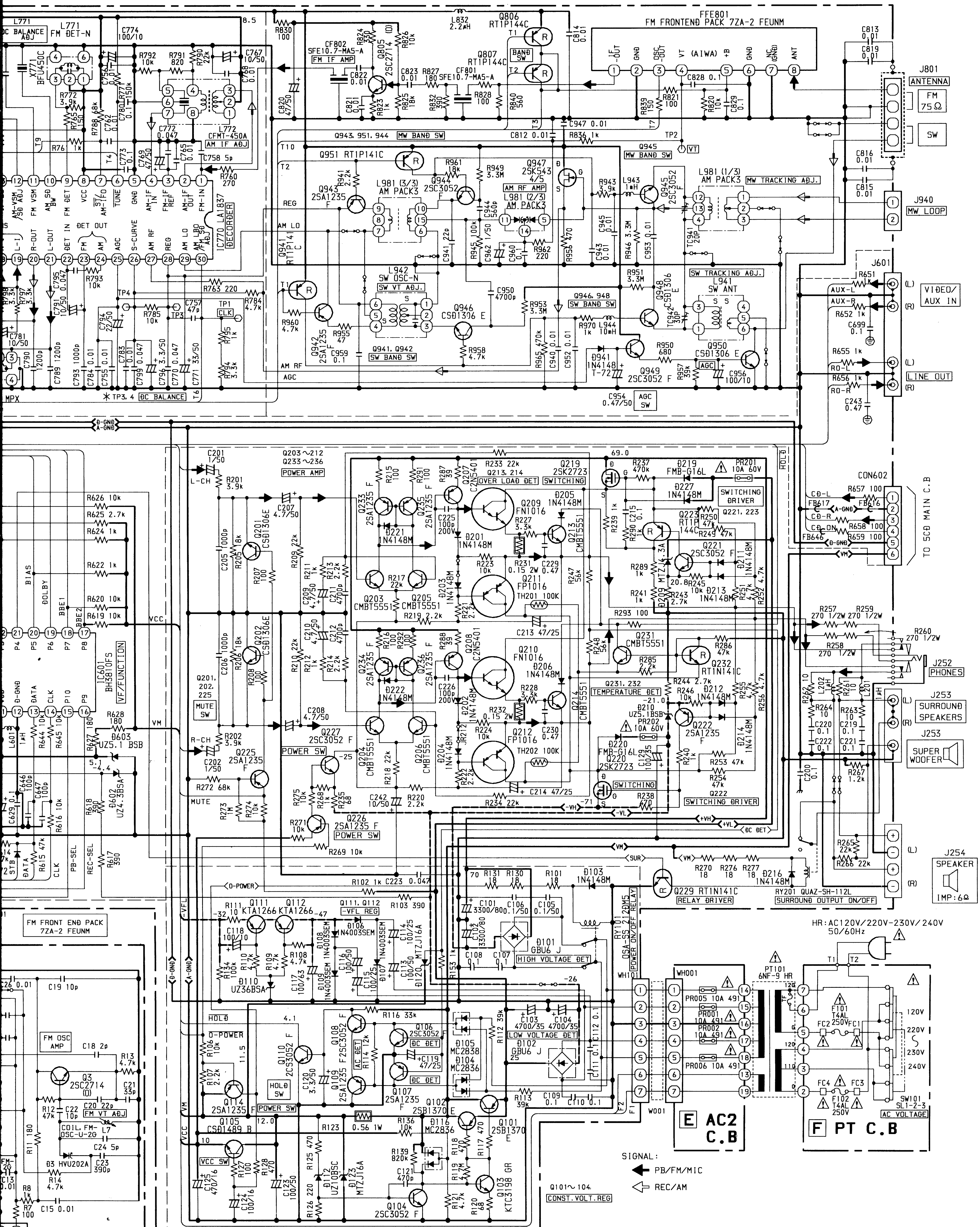
CON601
SIG/MS
NC
TM-BASE
CLK
DATA
TUNE/IFC
STEREO
STB
MUTE
PLL-CE
LH1
LH2
HSP
D-POWER
F1
F2
HOLD
VM
-VFL
D-GND
HP-MUTE
VCC
MIC
IN-L
IN-R
A-GND
OUT-L
OUT-R
TO B FRONT C.B PIN101
IC720 LC72131D
PLL
X721 4.5MHz
TP5 AUTO STOP
Q711 CSD1489
TUNER SW
TUNER:8.5
TP7 (RCH)
TP8 (LCH)
TUN-R
TUN-L
L792 MPX
L791 MPX
L771 FM DET-N
L770 DC BALANCE ADJ
D770 1N4148 T-72
BUFFERS
IC401 BA3880S BBE
D441 1N4148-T-72
D442 MC2836
Q601~603 MD REC MUTE
Q603 RT1P 141C
Q602 2SC3052
Q601 2SC3052
D601 1N4148 T-72
IC601
I HEAD-2 C.B
DECK 2
EH
RPH
L CH
R CH
CON351
PIN351
SFR351, 352 REC/PB FREQ RESPONSE ADJ
L351 BIAS OSC FREQ ADJ
NOR REC:5.9
CRO2 REC:8.0
Q358, 359 BIAS OSC
Q357 KTC3198 GR
BIAS SW
D352 MC2836
L302 TRAP BIAS
L301 TRAP BIAS
D351 1N4148 T-72
Q351 Q354 Q353 2SK2158 2SK2158 2SK2158
Q355 RT1P141C
Q351~355, 360 REC/PB SW
SFR301~304 PB SENS ADJ
IC301 HA12211
REC PB AMP
DECK 1
CON301 PIN301
PH L CH
R CH
Q360 RT1N141 C
H HEAD-1 C.B
TP8
TP9
DECK OUT
IC302 CXA1553P
DOLBY AMP
Q381, 382 MS BUFFER AM
SFR305, 306 REC/PB SENSITIVITY ADJ
Q382 2SC3052
Q381 2SC3052
TO A MAIN C.B FFE801
OSC IF GND OUT VT
FM FRONT END PACK 7ZA-2 FEUNM
IFT
Q2 2SC2714 (O)
FM MIXER
FM OSC AMP
Q3 2SC2714 (O)
D2 HVU202A
FM TRACKING ADJ
COIL FM-RF-U1 2G
COIL FM-OSC-U-2G
D3 HVU202A
FM RF AMP
Q1 2SK360 (E)
ANT GND GND B+
TO A MAIN C.B FFE801


FFE801
FM FRONTEND PACK 7ZA-2 FEUNM
Q805 FM IF AMP
Q806 RT1P144C
BAND SW
CF802 SFE10.7MA5-A
CF801 SFE10.7MA5-A
J801 ANTENNA
FM 75Ω
AM LOOP
L771 DC BALANCE ADJ
L771 FM DET-N
L772 CFAZ-450
AM IF ADJ
L981 (1/3) AM PACK 4N
L981 (2/3) AM PACK 4N
L981 (3/3) AM PACK 4N
L981 AM TRACKING ADJ
IC770 LA1837 DECORDER
BUFFERS
DET OUT
J601
VIDEO/AUX IN
LINE OUT
792 MPX
L791 MPX
TP3, 4 DC BALANCE
CLK TP1
IC601 BH3810FS VF/FUNCTION
MD REC MUTE
CD ON
TU ON
BIAS
DOLBY
BBE1
BBE2
Q203～212
Q233～236
POWER AMP
Q213, 214 OVER LOAD DET
Q219 2SK2723 SWITCHING
Q221, 223 SWITCHING DRIVER
Q231, 232 TEMPERATURE DET
Q220 2SK2723 SWITCHING
Q222 SWITCHING DRIVER
MUTE SW
POWER SW
Q226 2SA1235 F POWER SW
CON602
TO SCD MAIN C.B
J252 PHONES
J253 SURROUND SPEAKERS
J253 SUPER WOOFER
J254 SPEAKER IMP:6Ω
Q229 RT1N141C RELAY DRIVER
RY201 QUAZ-SH-112L SURROUND OUTPUT ON/OFF
RY101 DSA-SS-12DM5 POWER ON/OFF RELAY
Q111, Q112 -VFL REG
D101 GBU6 J HIGH VOLTAGE DET
D102 GBU6 J LOW VOLTAGE DET
AC DET
DC DET
HOLD SW
POWER SW
VCC SW
Q101～104 CONST.VOLT.REG
TO A MAIN C.B FFE801
FM FRONT END PACK 7ZA-2 FEUNM
IF GND OSC OUT VT
IFT
FM OSC AMP
FM VT ADJ
COIL FM-OSC-U-2G
COIL FM-RF-U1 2G
ANT GND GND B+
TO A MAIN C.B FFE801
E AC2 C.B
F PT C.B
PT101 6NF-9 LH
LH:AC120V/220V-230V/240V 50/60Hz
SW101 SL1-2-3 AC VOLTAGE
F101 T4AL 250V
F102 T4AL 250V
120V
220V
230V
240V
SIGNAL:
PB/FM/MIC
REC/AM

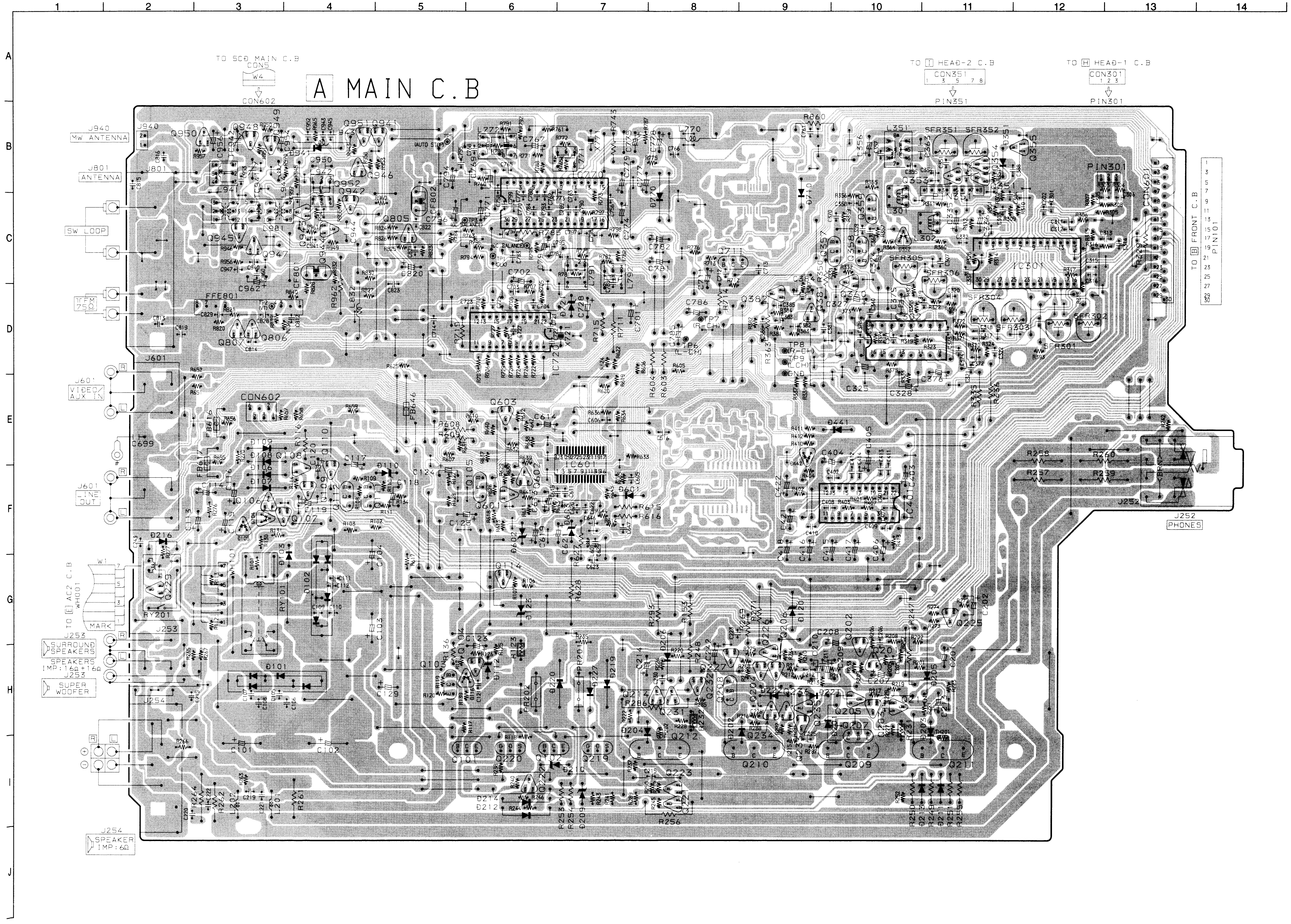
SCHEMATIC DIAGRAM – 2 (MAIN : HR)



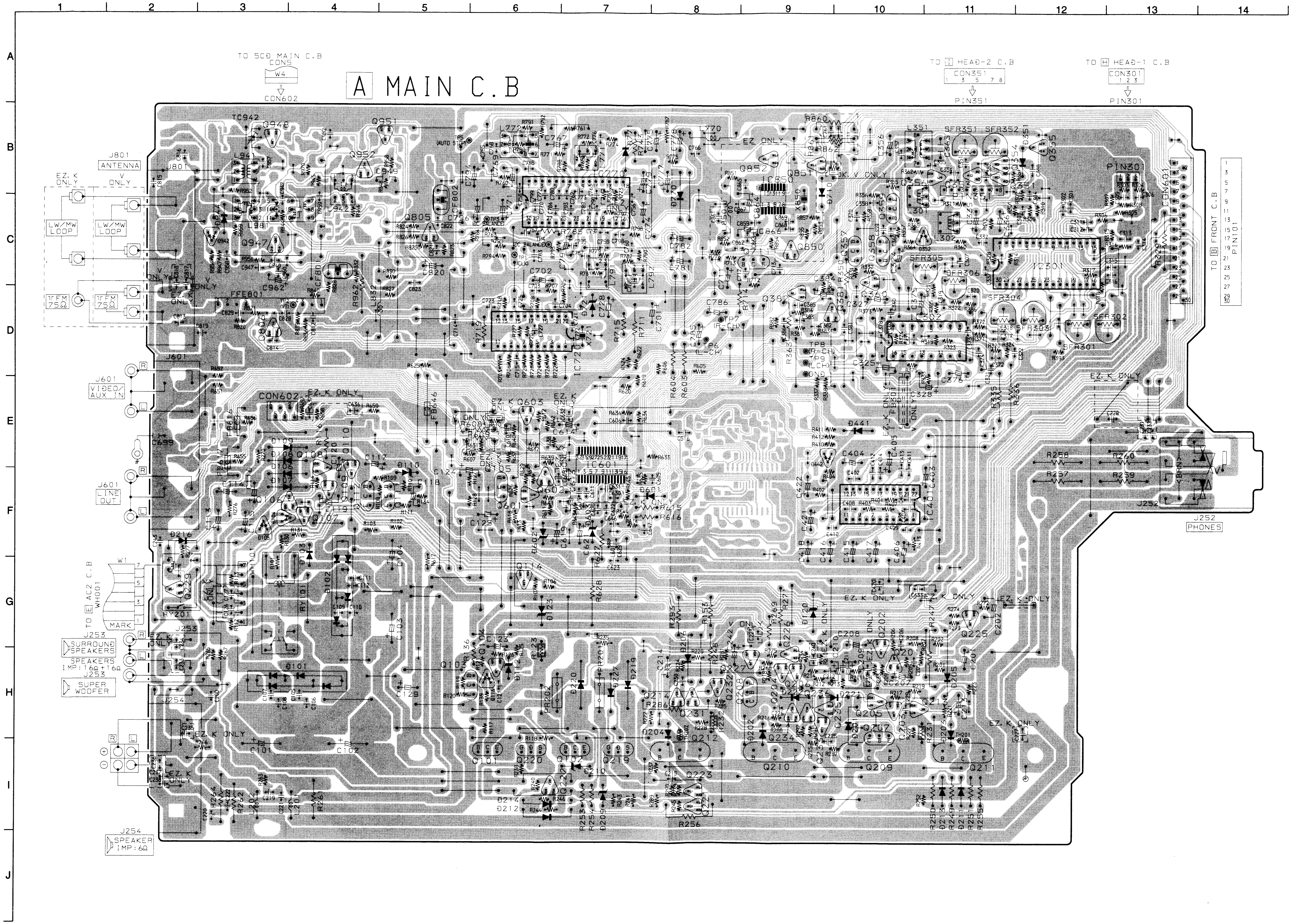
CON601
SIG/MS
NC
TM-BASE
CLK
DATA
TUNE/IFC
STEREO
STB
MUTE
PLL-CE
LH1
LH2
HSP
O-POWER
F1
F2
HOLD
VM
-VFL
D-GND
HP-MUTE
VCC
MIC
IN-L
IN-R
A-GND
OUT-L
OUT-R
TO B FRONT C.B PIN101
IC720 LC72131D
PLL
X721 4.5MHz
TP5 AUTO STOP
TUNER:8.5
Q711 CSD1489 B
TUNER SW
L771 DC BALANCE ADJ
L771 FM DET-N
X771 BFU450C
BUFFERS
DET OUT
TP7 (RCH)
TP8 (LCH)
TUN-R
TUN-L
L792 MPX
L791 MPX
D-GND
A-GND
IC401 BA3880S BBE
D442 MC2836
D441 1N4148-T-72
1:4.1V 3:1.7V
2:2.7V OFF:8.8V
Q601~603 MD REC MUTE
Q603 RT1P 141C
Q602 2SC3052
Q601 2SC3052
IC601 BH3810FS VF/FUNCTION
D603 UZ5.1 BSB
D602 UZ4.3BSA
D601 1N4148 T-72
I HEAD-2 C.B
DECK 2
EH
RPH
L CH
R CH
CON351
PIN351
SFR351, 352 REC/PB FREQ RESPONSE ADJ
L351 BIAS OSC FREQ ADJ
NOR REC:5.9
CRO2 REC:8.0
Q358, 359 BIAS OSC
Q357 KTC3198 GR BIAS SW
Q359 KTC3198
Q358 KTC3198
D352 MC2836
L302 TRAP BIAS
L301 TRAP BIAS
D354 1N4148 T-72
Q351 2SK2158
Q354 2SK2158
Q353 2SK2158
Q355 RT1P141C
Q351~355, 360 REC/PB SW
SFR301~304 PB SENS ADJ
IC301 HA12211 REC PB AMP
DECK 1
CON301
PIN301
PH
H HEAD-1 C.B
Q360 RT1N141 C
TP8
TP9
DECK OUT
IC302 CXA1553P DOLBY AMP
DOLBY NR
PB-SEL
MS
Q381, 382 MS BUFFER AM
SFR305, 306 REC/PB SENSITIVITY ADJ
Q381 2SC3052 F
Q382 2SC3052 F
TO A MAIN C.B FFE801
IF GND OSC OUT VT
FM FRONT END PACK 7ZA-2 FEUNM
IFT
Q2 2SC2714 (O) FM MIXER
FM OSC AMP
Q3 2SC2714 (O)
FM VT ADJ
COIL FM-OSC-U-2G L7
D3 HVU202A
D2 HVU202A
FM TRACKING ADJ
COIL FM-RF-U1 2G
Q1 2SK360 (E) FM RF AMP
ANT GND GND B+
TO A MAIN C.B FFE801
*TP3, 4 DC


FFE801
FM FRONTEND PACK 7ZA-2 FEUNM
J801
ANTENNA
FM 75Ω
SW
J940
MW LOOP
L771 FM DET-N
L772 CFMT-450A AM IF ADJ
IC770 LA1837 (RECORDER)
Q951 RT1P141C
L981 (3/3) AM PACK3
L981 (2/3) AM PACK3
L981 (1/3) AM PACK3
MW TRACKING ADJ.
L942 SW OSC-N
SW VT ADJ.
L941 SW ANT
SW TRACKING ADJ.
MW BAND SW
SW BAND SW
AM RF AMP
AGC SW
J601
VIDEO/ AUX IN
LINE OUT
*TP3, 4 DC BALANCE
Q203~212 Q233~236 POWER AMP
OVER LOAD DET
SWITCHING
SWITCHING DRIVER
TEMPERATURE DET
CON602
TO SCD MAIN C.B
IC601 BH3810FS VF/FUNCTION
MUTE SW
POWER SW
J252 PHONES
J253 SURROUND SPEAKERS
J253 SUPER WOOFER
J254 SPEAKER IMP:6Ω
Q229 RT1N141C RELAY DRIVER
RY201 QUAZ-SH-112L SURROUND OUTPUT ON/OFF
RY101 DSA-SS 2120M5 POWER ON/OFF RELAY
HIGH VOLTAGE DET
LOW VOLTAGE DET
DC DET
AC DET
HOLD SW
VCC SW
Q111, Q112 -VFL REG
Q101~104 CONST. VOLT. REG
FM FRONT END PACK 7ZA-2 FEUNM
FM OSC AMP
FM VT ADJ
HR: AC120V/220V-230V/240V 50/60Hz
PT101 6NF-9 HR
SW101 SL1-2-3 AC VOLTAGE
E AC2 C.B
F PT C.B
SIGNAL:
PB/FM/MIC
REC/AM

WIRING – 2 (MAIN : HR)

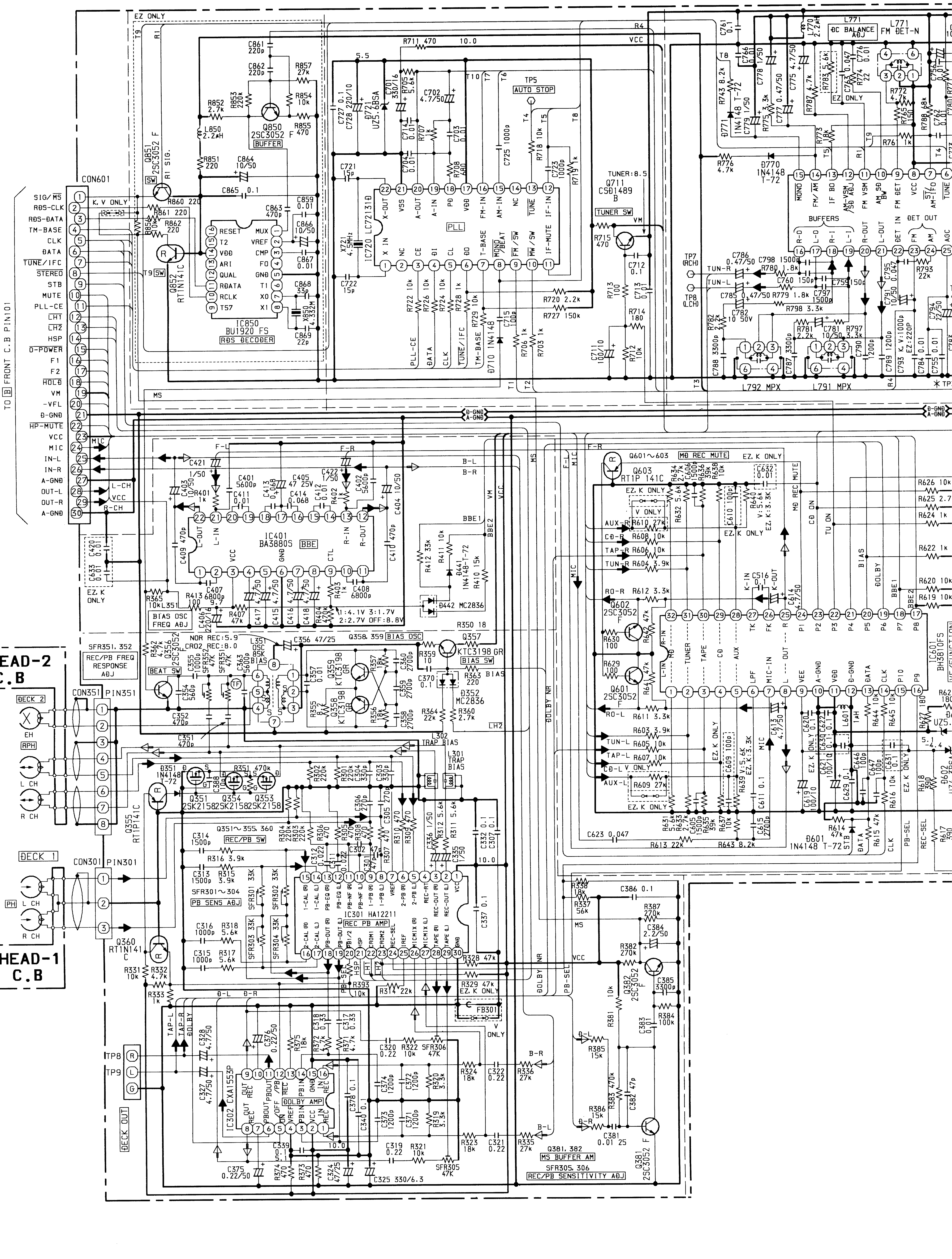

1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
A MAIN C.B
TO 5CD MAIN C.B
CON5
W4
CON602
TO I HEAD-2 C.B
CON351
1 3 5 7 8
PIN351
TO H HEAD-1 C.B
CON301
1 2 3
PIN301
TO B FRONT C.B
PIN101
J940
MW ANTENNA
J801
ANTENNA
SW LOOP
FM 75Ω
J601
VIDEO/AUX IN
J601
LINE OUT
TO E AC2 C.B
WH001
W1
MARK
J253
SURROUND SPEAKERS
SPEAKERS
IMP:16Ω+16Ω
J253
SUPER WOOFER
J254
SPEAKER
IMP:6Ω
J252
PHONES
IC601
IC301
IC721
CON601
CON602

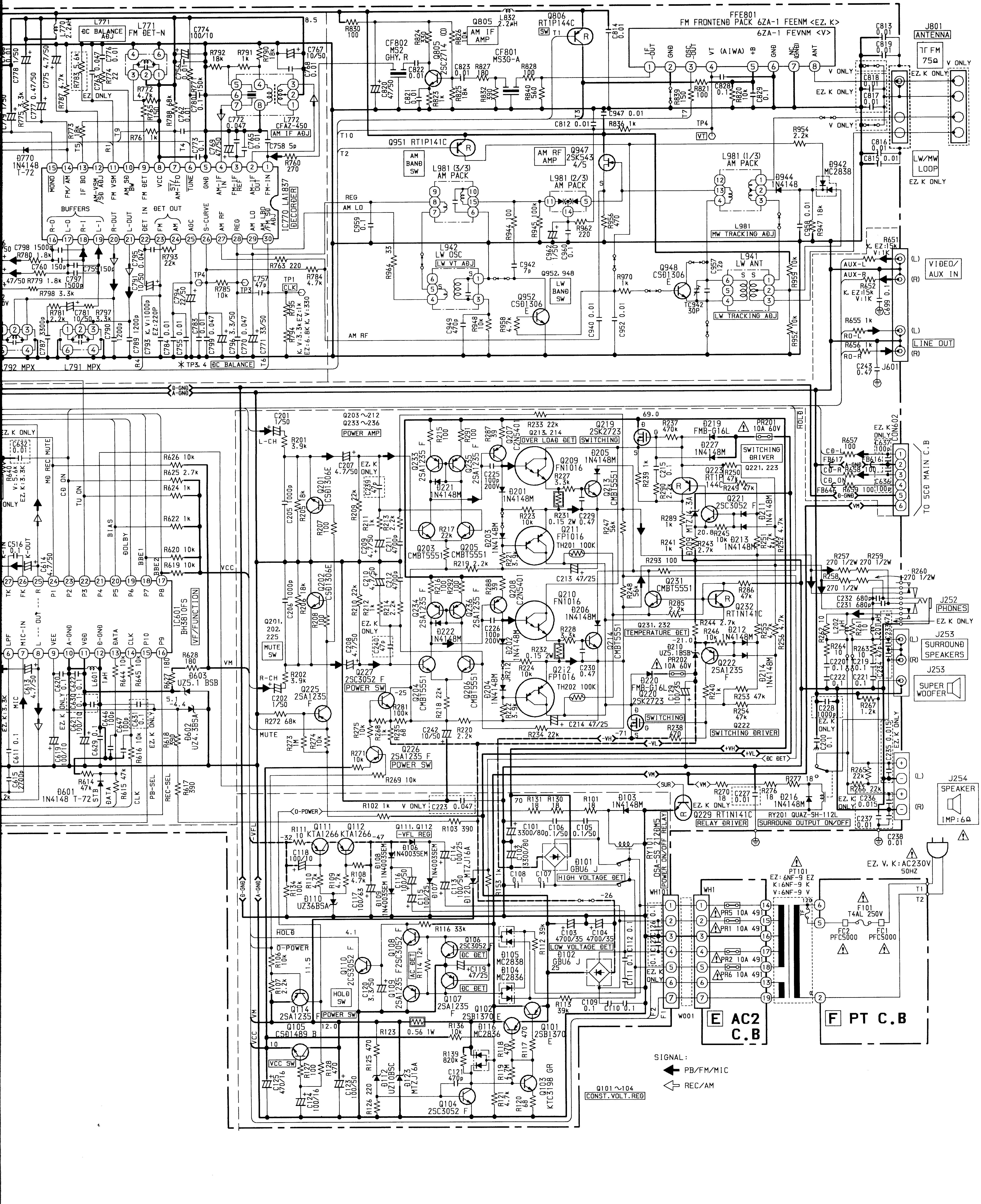
WIRING – 3 (MAIN : EZ, K, V)



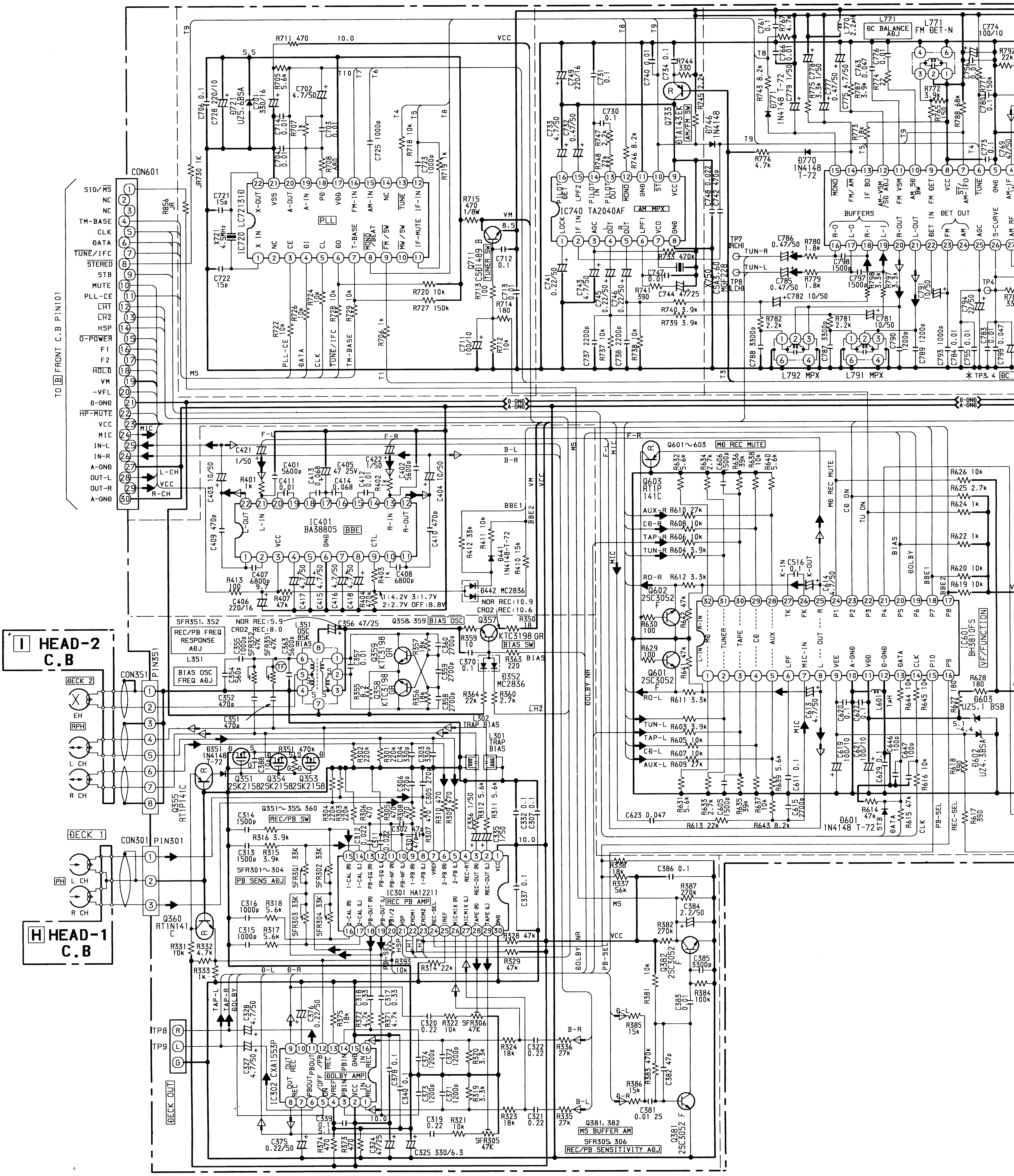
A MAIN C.B
TO SCD MAIN C.B
CONS
W4
CON602
TO I HEAD-2 C.B
CON351
1 3 5 7 8
PIN351
TO H HEAD-1 C.B
CON301
1 2 3
PIN301
TO B FRONT C.B
PIN101
CON601
J801
ANTENNA
EZ, K ONLY
V ONLY
LW/MW LOOP
FM 75Ω
FFE801
J601
VIDEO/AUX IN
J601
LINE OUT
TO E AC2 C.B
WH001
W1
MARK
J253
SURROUND SPEAKERS
SPEAKERS IMP: 16Ω+16Ω
J253
SUPER WOOFER
J254
J254
SPEAKER IMP: 6Ω
J252
PHONES
IC301
IC601
EZ, K ONLY
EZ ONLY
K, V ONLY
1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J

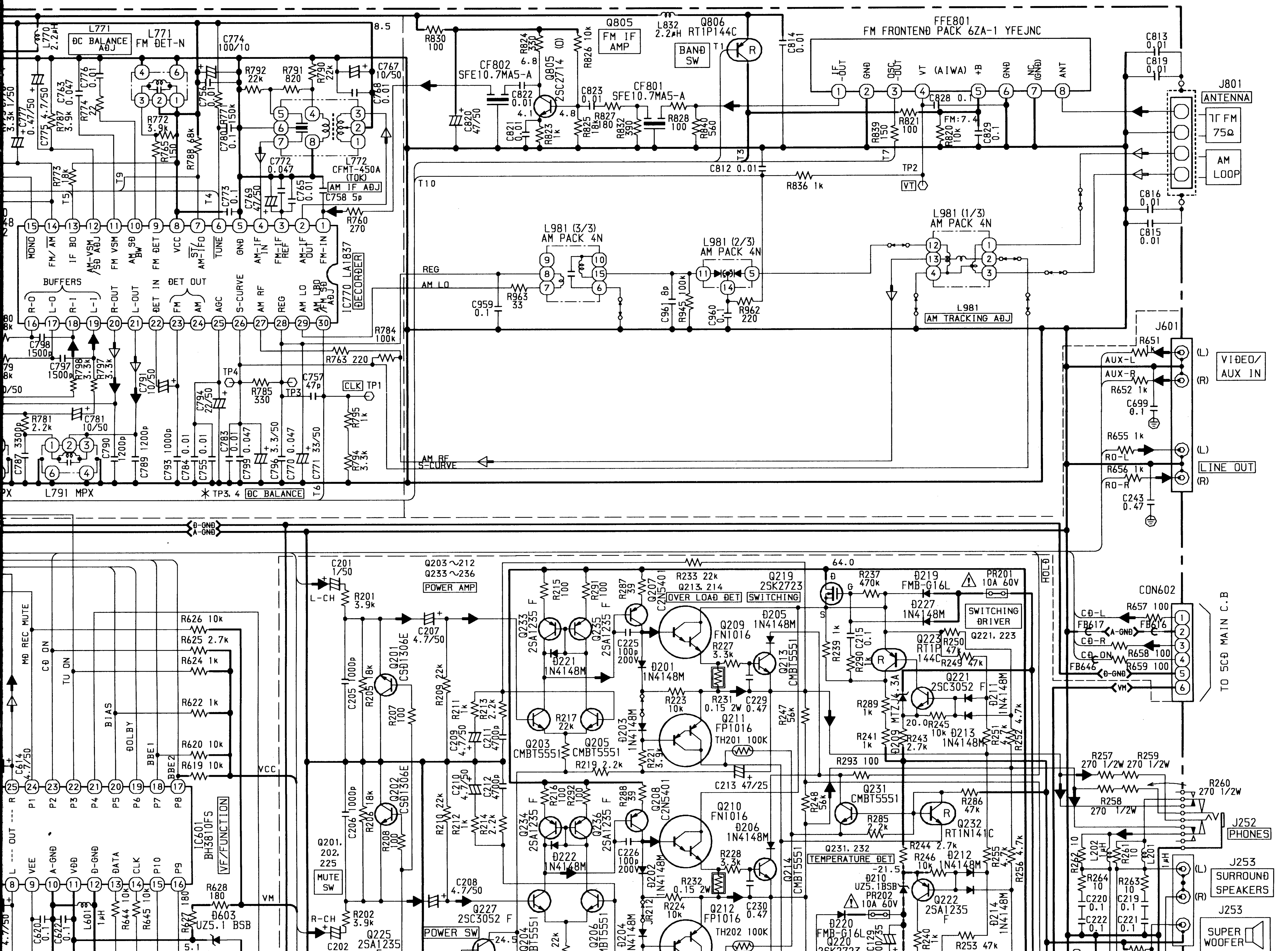
SCHEMATIC DIAGRAM – 3 (MAIN : EZ, K, V)


EZ ONLY
CON601
TO B FRONT C.B PIN101
SIG/MS
RDS-CLK
RDS-DATA
TM-BASE
CLK
DATA
TUNE/IFC
STEREO
STB
MUTE
PLL-CE
LH1
LH2
HSP
D-POWER
F1
F2
HOLD
VM
-VFL
D-GND
HP-MUTE
VCC
MIC
IN-L
IN-R
A-GND
OUT-L
OUT-R
A-GND
K, V ONLY
Q851 2SC3052 F
R1 SIG.
Q850 2SC3052 F
BUFFER
Q852 RT1N141C
IC850 BU1920 FS
RDS DECODER
IC720 LC72131D
PLL
TP5
AUTO STOP
Q711 CSD1489 B
TUNER SW
TUNER:8.5
TP7 (RCH)
TP8 (LCH)
L771 DC BALANCE ADJ
L771 FM DET-N
BUFFERS
L792 MPX
L791 MPX
IC401 BA3880S
BBE
BIAS OSC FREQ ADJ
SFR351, 352 REC/PB FREQ RESPONSE ADJ
BEAT SW
Q358, 359 BIAS OSC
Q357 KTC3198 GR
BIAS SW
D352 MC2836
D442 MC2836
L302 TRAP BIAS
L301 TRAP BIAS
I HEAD-2 C.B
DECK 2
CON351 PIN351
EH
RPH
L CH
R CH
Q351 2SK2158
Q354 2SK2158
Q353 2SK2158
Q355 RT1P141C
Q351~355, 360
REC/PB SW
SFR301~304
PB SENS ADJ
IC301 HA12211
REC PB AMP
DECK 1
CON301 PIN301
PH
H HEAD-1 C.B
Q360 RT1N141C
IC302 CXA1553P
DOLBY AMP
TP8 R
TP9 L
G
DECK OUT
FB301
V ONLY
Q381, 382
MS BUFFER AM
SFR305, 306
REC/PB SENSITIVITY ADJ
Q381 2SC3052 F
Q382 2SC3052 F
Q601~603 MD REC MUTE
EZ, K ONLY
Q603 RT1P141C
Q602 2SC3052
Q601 2SC3052
IC601 BH3810FS
D601 1N4148 T-72
NOR REC:5.9
CRO2 REC:8.0

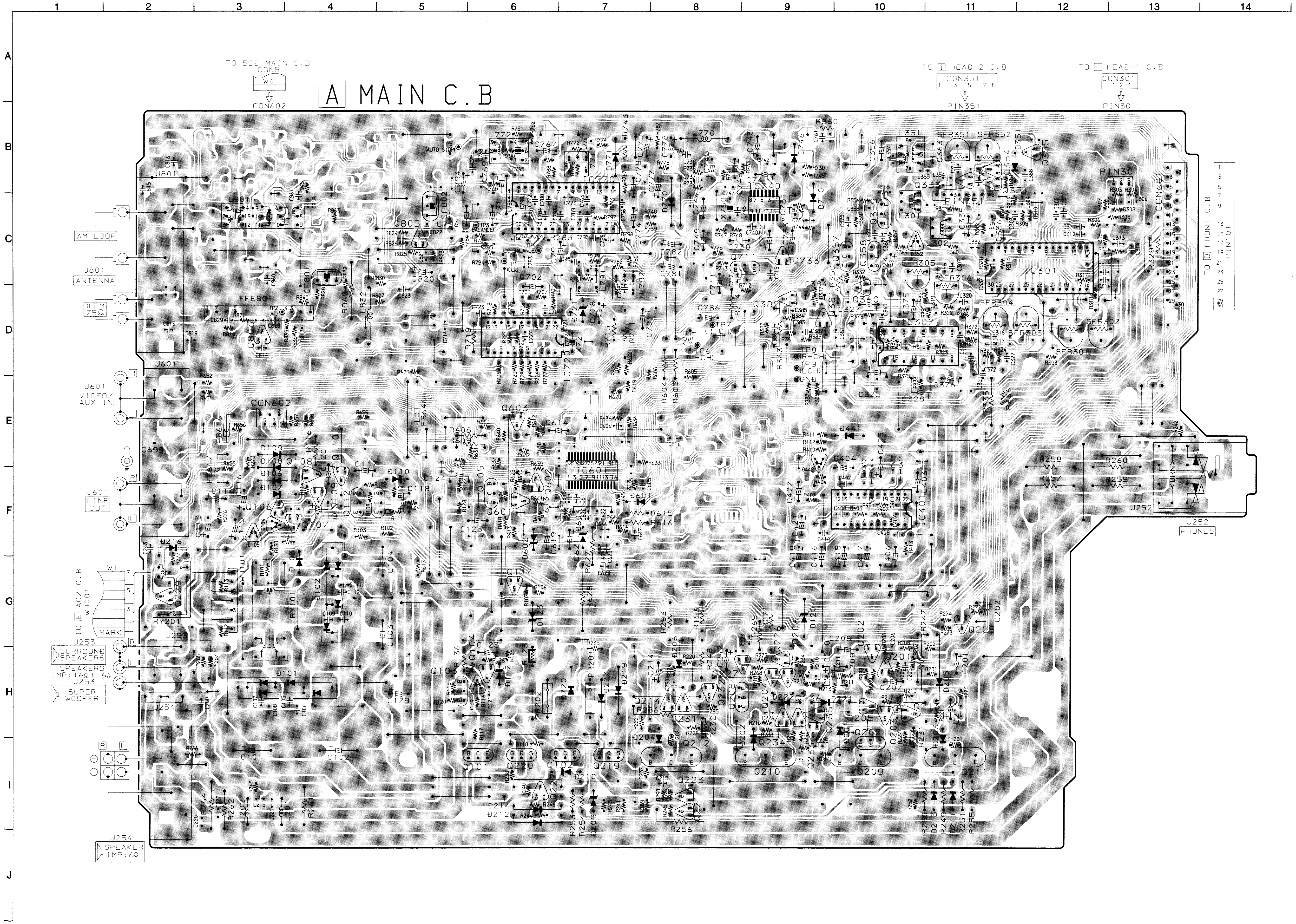

L771 FM DET-N
DC BALANCE ADJ
L772 CFAZ-450 AM IF ADJ
IC770 LA1837 DECORDER
BUFFERS
DET OUT
L792 MPX
L791 MPX
*TP3, 4 DC BALANCE
Q805 2SC2714 AM IF AMP
CF802 MS2 GHY, R
CF801 MS3G-A
Q806 RT1P144C SW
FFE801 FM FRONTEND PACK 6ZA-1 FEENM <EZ, K> 6ZA-1 FEVNM <V>
J801 ANTENNA
FM 75Ω
V ONLY
EZ, K ONLY
LW/MW LOOP
Q951 RT1P141C AM BAND SW
Q947 2SK543 4/5 AM RF AMP
L981 (3/3) AM PACK
L981 (2/3) AM PACK
L981 (1/3) AM PACK
D944 1N4148
D942 MC2838
L981 MW TRACKING ADJ
L942 LW OSC
LW VT ADJ
Q952, 948 LW BAND SW
Q952 CSD1306
Q948 CSD1306
L941 LW ANT
LW TRACKING ADJ
VIDEO/ AUX IN
LINE OUT
J601
IC601 BH3810FS VF/FUNCTION
Q203~212 Q233~236 POWER AMP
Q213, 214 OVER LOAD DET
Q219 2SK2723 SWITCHING
SWITCHING DRIVER Q221, 223
Q231, 232 TEMPERATURE DET
Q222 SWITCHING DRIVER
D220 FMB-G16L
D219 FMB-G16L
Q227 2SC3052 F POWER SW
Q226 2SA1235 F POWER SW
Q201, 202, 225 MUTE SW
TO 5CD MAIN C.B
J252 PHONES
J253 SURROUND SPEAKERS
J253 SUPER WOOFER
J254 SPEAKER IMP:6Ω
Q229 RT1N141C RELAY DRIVER
RY201 QUAZ-SH-112L SURROUND OUTPUT ON/OFF
Q111, Q112 -VFL REG
D101 GBU6 J HIGH VOLTAGE DET
RY101 DSA-SS 212DM5 POWER ON/OFF RELAY
D102 GBU6 J LOW VOLTAGE DET
Q106 2SC3052 DC DET
Q107 2SA1235 F DC DET
Q108 F2SC3052 AC DET
HOLD SW
Q114 2SA1235 F POWER SW
Q105 CSD1489 B VCC SW
Q101~104 CONST. VOLT. REG
PT101 EZ: 6NF-9 EZ K: 6NF-9 K V: 6NF-9 V
F101 T4AL 250V
EZ, V, K: AC230V 50HZ
E AC2 C.B
F PT C.B
SIGNAL:
PB/FM/MIC
REC/AM

SCHEMATIC DIAGRAM – 4 (MAIN : HD)


CON601
SIG/MS
NC
TM-BASE
CLK
DATA
TUNE/1FC
STEREO
STB
MUTE
PLL-CE
LHT
LH2
HSP
D-POWER
F1
F2
HOLD
VM
-VFL
D-GND
HP-MUTE
VCC
MIC
IN-L
IN-R
A-GND
OUT-L
OUT-R
TO B FRONT C.B PIN101
IC720 LC72131D
PLL
IC740 TA2040AF
AM MPX
Q711 CSD1489 B
TUNER SW
Q733 DTA143EK
AM/FM SW
L771 FM DET-N
DC BALANCE ADJ
BUFFERS
L792 MPX
L791 MPX
IC401 BA3880S
BBE
D441 1N4148-T-72
D442 MC2836
NOR REC:10.9
CRO2 REC:10.6
SFR351, 352
REC/PB FREQ RESPONSE ADJ
L351
BIAS OSC FREQ ADJ
L351 OSC 85K BIAS
Q358, 359 BIAS OSC
Q359 KTC3198 GR
Q358 KTC3198 GR
Q357 KTC3198 GR
BIAS SW
D352 MC2836
L302 TRAP BIAS
L301 TRAP BIAS
I HEAD-2 C.B
CON351 PIN351
DECK 2
EH
RPH
L CH
R CH
Q351 1N4148 T-72
Q354 2SK2158
Q353 2SK2158
Q355 RT1P141C
Q351~355, 360
REC/PB SW
SFR301~304
PB SENS ADJ
IC301 HA12211
REC PB AMP
DECK 1
CON301 PIN301
PH
Q360 RT1N141 C
H HEAD-1 C.B
IC302 CXA1553P
DOLBY AMP
TP8
TP9
DECK OUT
Q381, 382
MS BUFFER AM
SFR305, 306
REC/PB SENSITIVITY ADJ
Q381 2SC3052 F
Q382 2SC3052 F
Q601~603
MD REC MUTE
Q603 RT1P 141C
Q602 2SC3052 F
Q601 2SC3052 F
IC601 BH3810FS
VF/FUNCTION
D601 1N4148 T-72
D603 UZ5.1 BSB
D602 UZ4.3BSA
MD REC MUTE
CD ON
TU ON
BIAS
DOLBY
BBE1
BBE2
PB-SEL
REC-SEL
MS
DOLBY NR
MIC
VCC
VM
F-L
F-R
B-L
B-R
D-GND
A-GND


L771 FM DET-N
L771 DC BALANCE ADJ
L772 CFMT-450A (TDK)
AM IF ADJ
IC770 LA1837 DECORDER
BUFFERS
L791 MPX
*TP3, 4 DC BALANCE
Q805 FM IF AMP
CF802 SFE10.7MA5-A
CF801 SFE10.7MA5-A
Q806 RT1P144C
BAND SW
FFE801
FM FRONTEND PACK 6ZA-1 YFEJNC
J801 ANTENNA
FM 75Ω
AM LOOP
L981 (3/3) AM PACK 4N
L981 (2/3) AM PACK 4N
L981 (1/3) AM PACK 4N
L981 AM TRACKING ADJ
J601 VIDEO/AUX IN
LINE OUT
CON602 TO 5CD MAIN C.B
Q203~212 Q233~236 POWER AMP
Q213, 214 OVER LOAD DET
Q219 2SK2723 SWITCHING
SWITCHING DRIVER Q221, 223
Q231, 232 TEMPERATURE DET
Q220 2SK2723 SWITCHING
Q222 SWITCHING DRIVER
Q201, 202, 225 MUTE SW
Q227 2SC3052 F POWER SW
Q226 2SA1235 F POWER SW
IC601 BH3810FS VF/FUNCTION
J252 PHONES
J253 SURROUND SPEAKERS
J253 SUPER WOOFER
J254 SPEAKER IMP:6Ω
RY201 QUAZ-SH-112L SURROUND OUTPUT ON/OFF
Q229 RT1N141C RELAY DRIVER
Q111, Q112 -VFL REG
D101 GBU6 J HIGH VOLTAGE DET
RY101 DSA-SS 212DM5 POWER ON/OFF RELAY
D102 GBU6 J LOW VOLTAGE DET
AC DET
DC DET
HOLD SW
POWER SW
VCC SW
Q101~104, 115 CONST. VOLT. REG
HD : AC 100 – 120V / 220 – 240V 50/60Hz
PT101 6NF-9 HD
SW101 AC VOLTAGE
E AC2 C.B
F PT C.B
SIGNAL:
PB/FM/MIC
REC/AM

WIRING – 4 (MAIN : HD)


TO SCD MAIN C.B
CON5
W4
CON602
A MAIN C.B
TO I HEAD-2 C.B
CON351
PIN351
TO H HEAD-1 C.B
CON301
PIN301
TO B FRONT C.B
PIN101
AM LOOP
J801
ANTENNA
FM 75Ω
J601
VIDEO/AUX IN
J601
LINE OUT
TO E AC2 C.B
WH001
W1
MARK
J253
SURROUND SPEAKERS
SPEAKERS
IMP: 16Ω+16Ω
J253
SUPER WOOFER
J254
SPEAKER
IMP: 6Ω
J252
PHONES
IC301
IC302
IC401
IC601
IC720
IC740
1
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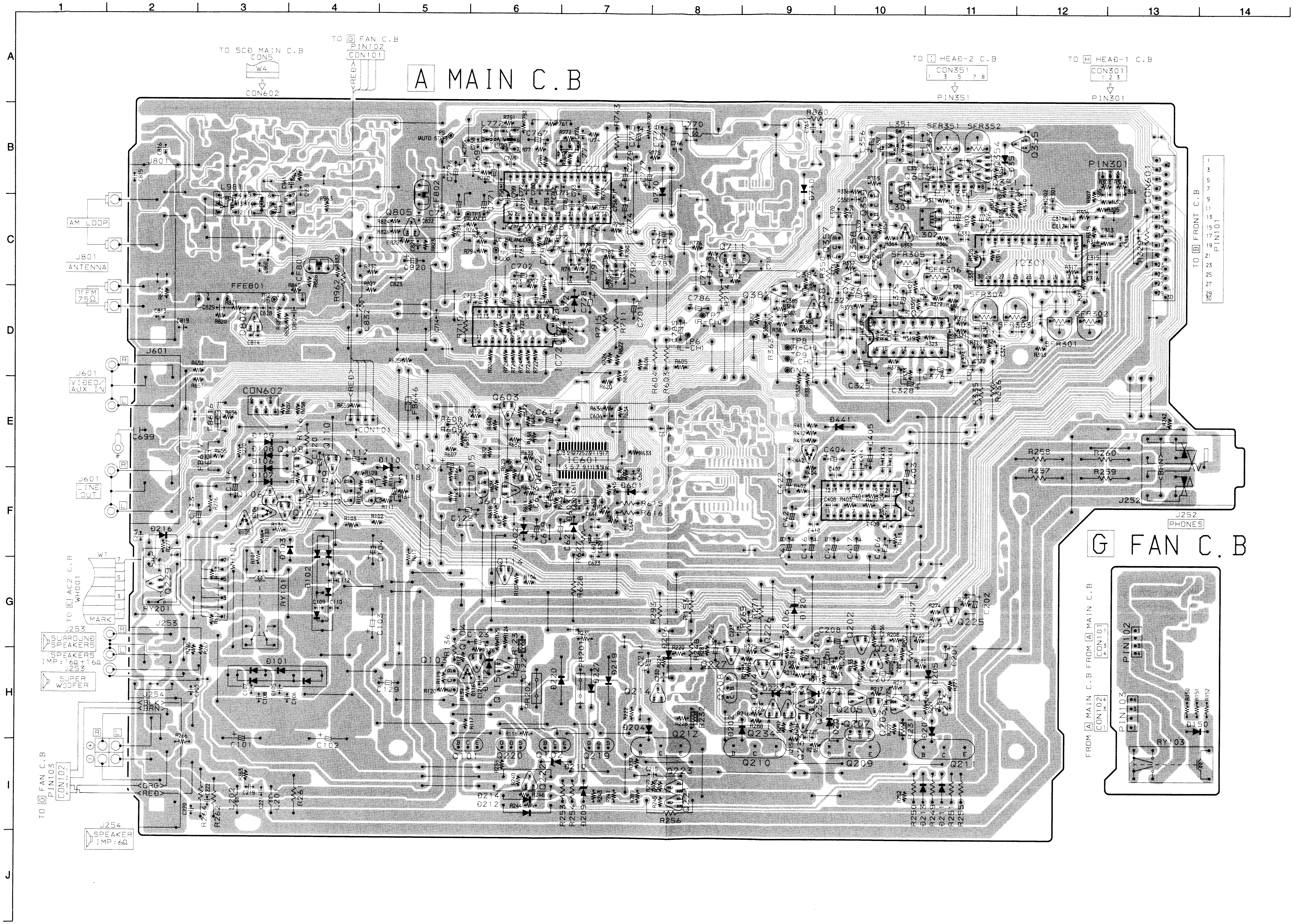
A
B
C
D
E
F
G
H
I
J

WIRING – 5 (MAIN : U)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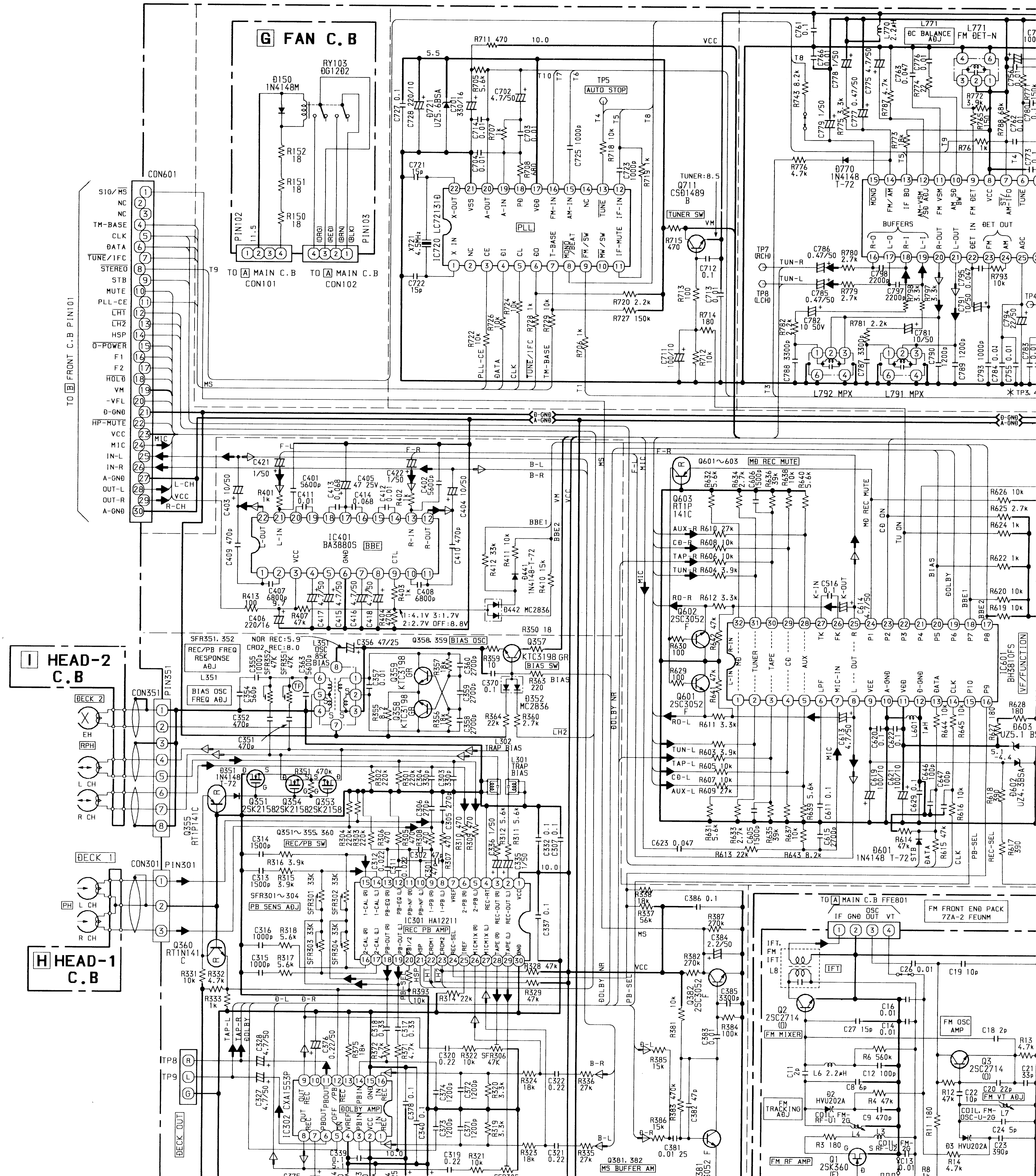
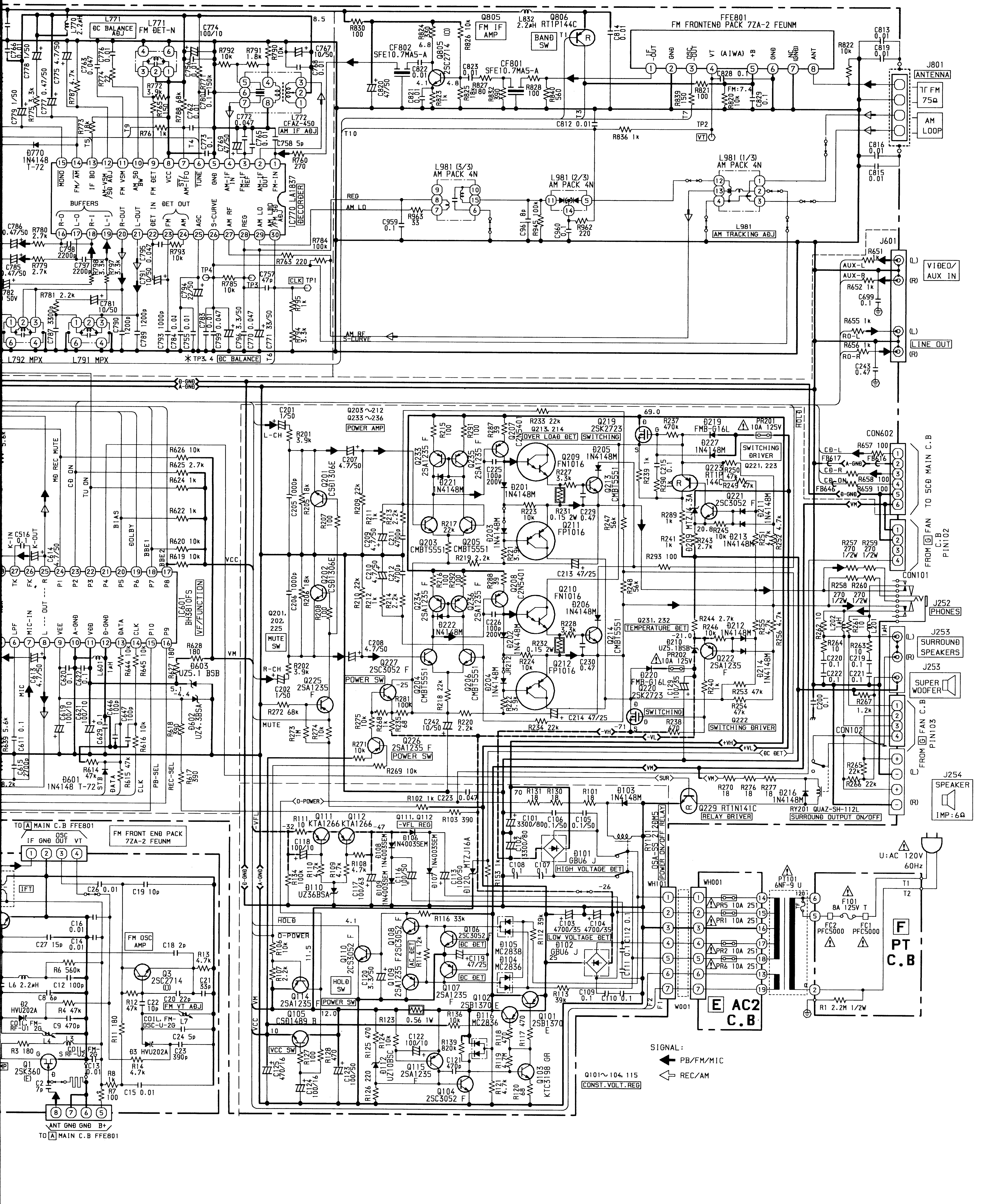
11
12
13
14
A
B
C
D
E
F
G
H
I
J
A MAIN C.B
TO 5CD MAIN C.B
CONS
W4
CON602
TO G FAN C.B
PIN102
CON101
TO I HEAD-2 C.B
CON351
1 3 5 7 8
PIN351
TO H HEAD-1 C.B
CON301
1 2 3
PIN301
TO B FRONT C.B
PIN101
AM LOOP
J801
ANTENNA
FM 75Ω
J601
VIDEO/AUX IN
J601
LINE OUT
TO E AC2 C.B
WH001
W1
MARK
RY201
J253
SURROUND SPEAKERS
SPEAKERS
IMP: 6Ω-16Ω
J253
SUPER WOOFER
J254
TO G FAN C.B
PIN103
CON102
J254
SPEAKER
IMP: 6Ω
IC301
IC302
IC601
CON601
CON602
CON101
J252
PHONES
G FAN C.B
FROM A MAIN C.B
CON101
PIN102
FROM A MAIN C.B
CON102
PIN103
RY103
D150

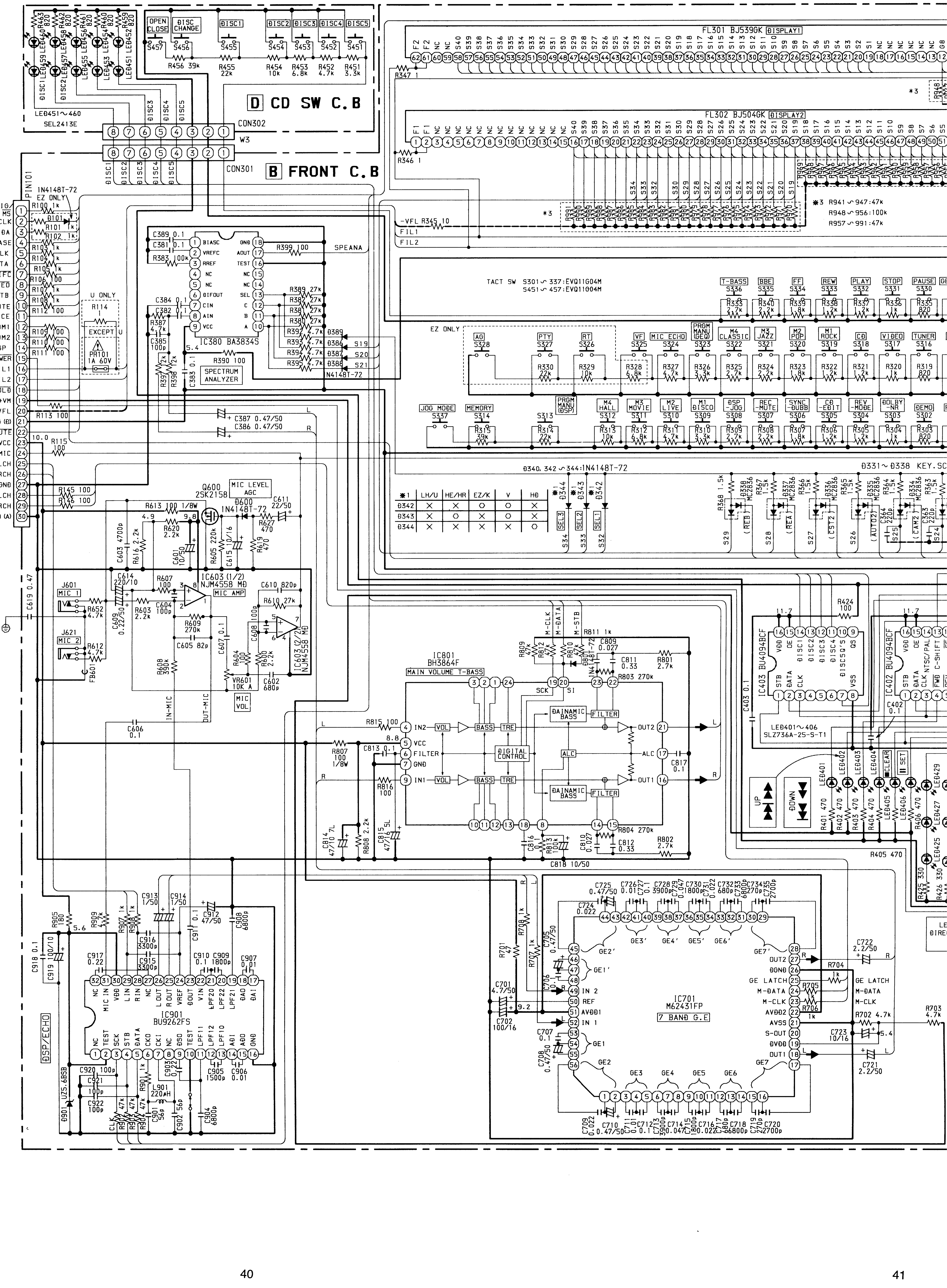
SCHEMATIC DIAGRAM – 5 (MAIN : U)

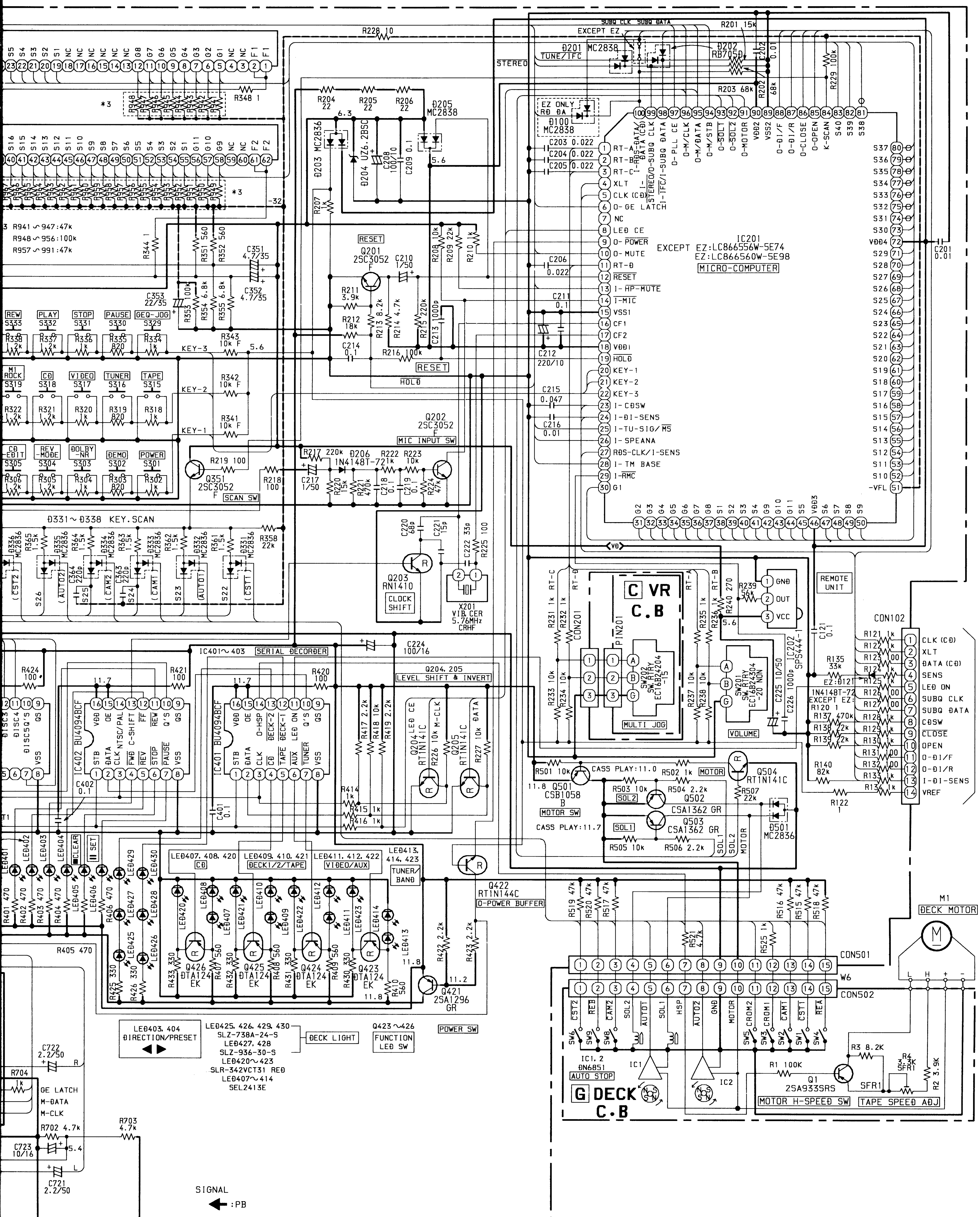

G FAN C.B
RY103
DG1202
D150
1N4148M
R152 18
R151 18
R150 18
PIN102
PIN103
TO A MAIN C.B CON101
TO A MAIN C.B CON102
CON601
SIG/MS
NC
TM-BASE
CLK
DATA
TUNE/1FC
STEREO
STB
MUTE
PLL-CE
LH1
LH2
HSP
D-POWER
F1
F2
HOLD
VM
-VFL
D-GND
HP-MUTE
VCC
MIC
IN-L
IN-R
A-GND
OUT-L
OUT-R
TO B FRONT C.B PIN101
IC720 LC72131D
PLL
X721 4.5MHz
TP5 AUTO STOP
Q711 CSD1489 B
TUNER SW
TUNER:8.5
L771 DC BALANCE ADJ
L771 FM DET-N
D770 1N4148 T-72
BUFFERS
TP7 (RCH)
TP8 (LCH)
TUN-R
TUN-L
L792 MPX
L791 MPX
D-GND
A-GND
IC401 BA3880S BBE
D441 1N4148-T-72
D442 MC2836
1:4.1V 3:1.7V 2:2.7V OFF:8.8V
Q601~603 MD REC MUTE
Q603 RT1P 141C
Q602 2SC3052 F
Q601 2SC3052 F
IC601 BH3810FS VF/FUNCTION
D601 1N4148 T-72
D602 UZ4.3BSA
D603
I HEAD-2 C.B
DECK 2
EH
RPH
L CH
R CH
CON351
PIN351
SFR351, 352 REC/PB FREQ RESPONSE ADJ
L351 BIAS OSC FREQ ADJ
NOR REC:5.9
CRO2 REC:8.0
Q358, 359 BIAS OSC
Q357 KTC3198 GR
BIAS SW
D352 MC2836
L302 TRAP BIAS
L301 TRAP BIAS
D351 1N4148 T-72
Q351 Q354 Q353
2SK2158 2SK2158 2SK2158
Q355 RT1P141C
Q351~355, 360 REC/PB SW
SFR301~304 PB SENS ADJ
IC301 HA12211 REC PB AMP
DECK 1
CON301
PIN301
PH
H HEAD-1 C.B
Q360 RT1N141 C
TP8 R
TP9 L
G
DECK OUT
IC302 CXA1553P
DOLBY AMP
Q381, 382 MS BUFFER AMP
SFR305, 306 REC/PB SENSITIVITY ADJ
Q382 2SC3052 F
Q381 2SC3052 F
TO A MAIN C.B FFE801
FM FRONT END PACK 7ZA-2 FEUNM
OSC
IF GND OUT VT
IFT
FM IFT L8
Q2 2SC2714 (O)
FM MIXER
FM OSC AMP
Q3 2SC2714 (O)
FM TRACKING ADJ
FM VT ADJ
D2 HVU202A
D3 HVU202A
COIL FM-RF-U1 2G
COIL FM-OSC-U-2G
FM RF AMP
Q1 2SK360 (E)
ANT GND GND B+
TO A MAIN C.B FFE801



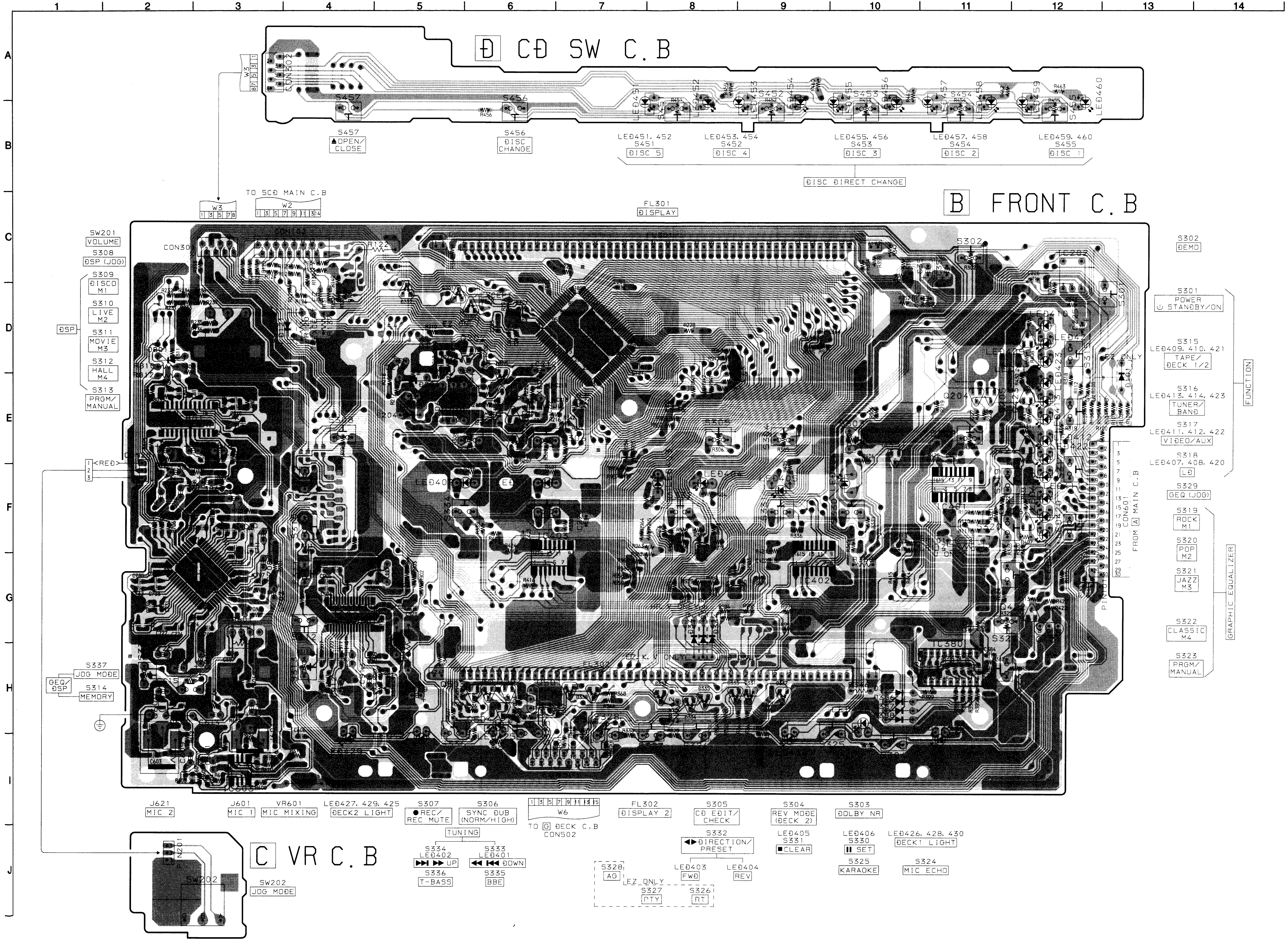
L771 DC BALANCE ADJ
L771 FM DET-N
L772 CFAZ-450 AM IF ADJ
IC770 LA1837 DECORDER
BUFFERS
L792 MPX
L791 MPX
*TP3, 4 DC BALANCE
Q805 FM IF AMP
L832 2.2μH
Q806 RT1P144C
BAND SW
CF802 SFE10.7MA5-A
CF801 SFE10.7MA5-A
FFE801 FM FRONTEND PACK 7ZA-2 FEUNM
J801 ANTENNA
FM 75Ω
AM LOOP
L981 (3/3) AM PACK 4N
L981 (2/3) AM PACK 4N
L981 (1/3) AM PACK 4N
L981 AM TRACKING ADJ
J601
VIDEO/AUX IN
LINE OUT
IC601 BH3810FS VF/FUNCTION
MD REC MUTE
CD ON
TU ON
BIAS
DOLBY
Q203~212 Q233~236 POWER AMP
Q213, 214 OVER LOAD DET
Q219 2SK2723 SWITCHING
SWITCHING DRIVER Q221, 223
Q231, 232 TEMPERATURE DET
Q220 2SK2723 SWITCHING
Q222 SWITCHING DRIVER
PR201 10A 125V
PR202 10A 125V
MUTE SW
Q227 2SC3052 F POWER SW
Q226 2SA1235 F POWER SW
CON602 TO 5CD MAIN C.B
FROM G FAN C.B PIN102
CON101
J252 PHONES
J253 SURROUND SPEAKERS
J253 SUPER WOOFER
CON102
FROM G FAN C.B PIN103
J254 SPEAKER IMP: 6Ω
Q229 RT1N141C RELAY DRIVER
RY201 QUAZ-SH-112L SURROUND OUTPUT ON/OFF
RY101 DSA-SS-212DM5 POWER ON/OFF RELAY
Q111, Q112 -VFL REG
D101 GBU6 J HIGH VOLTAGE DET
D102 GBU6 J LOW VOLTAGE DET
Q106 DC DET
Q107 DC DET
Q108 AC DET
Q110 HOLD SW
Q114 POWER SW
Q105 CS01489 B VCC SW
Q101~104, 115 CONST. VOLT. REG
WH001
W001
PT101 6NF-9 U
F101 8A 125V T
FC2 PFC5000
FC1 PFC5000
E AC2 C.B
F PT C.B
U: AC 120V 60Hz
R1 2.2M 1/2W
TO A MAIN C.B FFE801
FM FRONT END PACK 7ZA-2 FEUNM
FM OSC AMP
Q3 2SC2714 (O)
COIL FM-OSC-U-2G
L7 FM VT ADJ
Q1 2SK360 (E)
COIL FM-RF-U1 2G
COIL FM-RF-U2 2G
ANT GND GND B+
TO A MAIN C.B FFE801
SIGNAL:
PB/FM/MIC
REC/AM

SCHEMATIC DIAGRAM – 6 (FRONT)


D CD SW C.B
B FRONT C.B
CON302
CON301
W3
OPEN CLOSE
DISC CHANGE
DISC1
DISC2
DISC3
DISC4
DISC5
LED451～460 SEL2413E
FL301 BJ539GK DISPLAY1
FL302 BJ504GK DISPLAY2
FROM A MAIN C.B CON601
PIN101
1N4148T-72 EZ ONLY
I-TU-SIG/MS
RDS CLK
RD DA
TM-BASE
M-CLK
M-DATA
TUNE/IFC
STEREO
M-STB
MUTE
PLL-CE
CROM1
CROM2
HSP
O-POWER
FIL1
FIL2
HOLD
+VM
-VFL
G (D)
HP-MUTE
VCC
MIC
IN-LCH
IN-RCH
GND
OUT-LCH
OUT-RCH
GND (A)
U ONLY
EXCEPT U
PR101 1A 60V
IC380 BA3834S
SPECTRUM ANALYZER
SPEANA
TACT SW S301～337:EVQ11G04M
S451～457:EVQ11004M
*3 R941～947:47k
R948～956:100k
R957～991:47k
EZ ONLY
T-BASS
BBE
FF
REW
PLAY
STOP
PAUSE
AG
PTY
RT
VF
MIC ECHO
PRGM MANU (GEQ)
M4 CLASSIC
M3 JAZZ
M2 POP
M1 ROCK
CD
VIDEO
TUNER
JOG MODE
MEMORY
PRGM MANU (DSP)
M4 HALL
M3 MOVIE
M2 LIVE
M1 DISCO
DSP -JOG
REC -MUTE
SYNC -DUBB
CD -EDIT
REV -MODE
DOLBY -NR
DEMO
D340, 342～344:1N4148T-72
D331～D338 KEY.SC
Q600 2SK2158
MIC LEVEL AGC
D600 1N4148T-72
IC603 (1/2) NJM4558 MD
MIC AMP
IC603 (2/2) NJM4558 MD
J601 MIC 1
J621 MIC 2
VR601 10K A
MIC VOL
IN-MIC
OUT-MIC
IC801 BH3864F
MAIN VOLUME T-BASS
DAINAMIC BASS
FILTER
DIGITAL CONTROL
ALC
IC403 BU4094BCF
IC402 BU4094BCF
LED401～406 SLZ736A-25-S-T1
UP
DOWN
CLEAR
SET
IC901 BU9262FS
DSP/ECHO
IC701 M62431FP
7 BAND G.E
GE LATCH
M-DATA
M-CLK
OUT1
OUT2


IC201
EXCEPT EZ:LC866556W-5E74
EZ:LC866560W-5E98
MICRO-COMPUTER
RESET
Q201 2SC3052
Q202 2SC3052
MIC INPUT SW
Q351 2SC3052
SCAN SW
Q203 RN1410
CLOCK SHIFT
X201 VIB.CER 5.76MHz CRHF
Ð331～Ð338 KEY.SCAN
IC401～403 SERIAL DECORDER
IC402 BU4094BCF
IC401 BU4094BCF
Q204, 205 LEVEL SHIFT & INVERT
Q422 RTIN144C
O-POWER BUFFER
Q421 2SA1296 GR
LEÐ403, 404 DIRECTION/PRESET
LEÐ425, 426, 429, 430 SLZ-738A-24-S
LEÐ427, 428 SLZ-936-30-S
LEÐ420～423 SLR-342VCT31 REÐ
LEÐ407～414 SEL2413E
DECK LIGHT
Q423～426 FUNCTION LEÐ SW
POWER SW
LEÐ407, 408, 420 CÐ
LEÐ409, 410, 421 DECK1/2/TAPE
LEÐ411, 412, 422 VIDEO/AUX
LEÐ413, 414, 423 TUNER/BAND
REW PLAY STOP PAUSE GEQ-JOG
M1 ROCK CÐ VIDEO TUNER TAPE
CÐ EDIT REV MODE DOLBY-NR DEMO POWER
KEY-1 KEY-2 KEY-3
C VR C.B
SW202 SW.RTRY EC16B24204-15
MULTI JOG
SW201 SW.RTRY EC16B2404 20 NON
VOLUME
IC202 SPS444-1
REMOTE UNIT
CON102
CLK (CÐ)
XLT
ÐATA (CÐ)
SENS
LEÐ ON
SUBQ CLK
SUBQ ÐATA
CÐSW
CLOSE
OPEN
O-ÐI/F
O-ÐI/R
I-ÐI-SENS
VREF
TO 5CÐ MAIN C.B
Ð201 MC2838 TUNE/TFC
Ð202 RB705Ð
EZ ONLY
Ð100 MC2838
Q501 CSB1058 B
MOTOR SW
CASS PLAY:11.0
CASS PLAY:11.7
Q502 CSA1362 GR
Q503 CSA1362 GR
Q504 RTIN141C
Ð501 MC2836
M1 ÐECK MOTOR
CON501
CON502
W6
IC1, 2 ÐN6851
AUTO STOP
Q1 2SA933SRS
MOTOR H-SPEEÐ SW
TAPE SPEEÐ AÐJ
G DECK C.B
GE LATCH
M-ÐATA
M-CLK
SIGNAL
:PB

WIRING – 6 (FRONT)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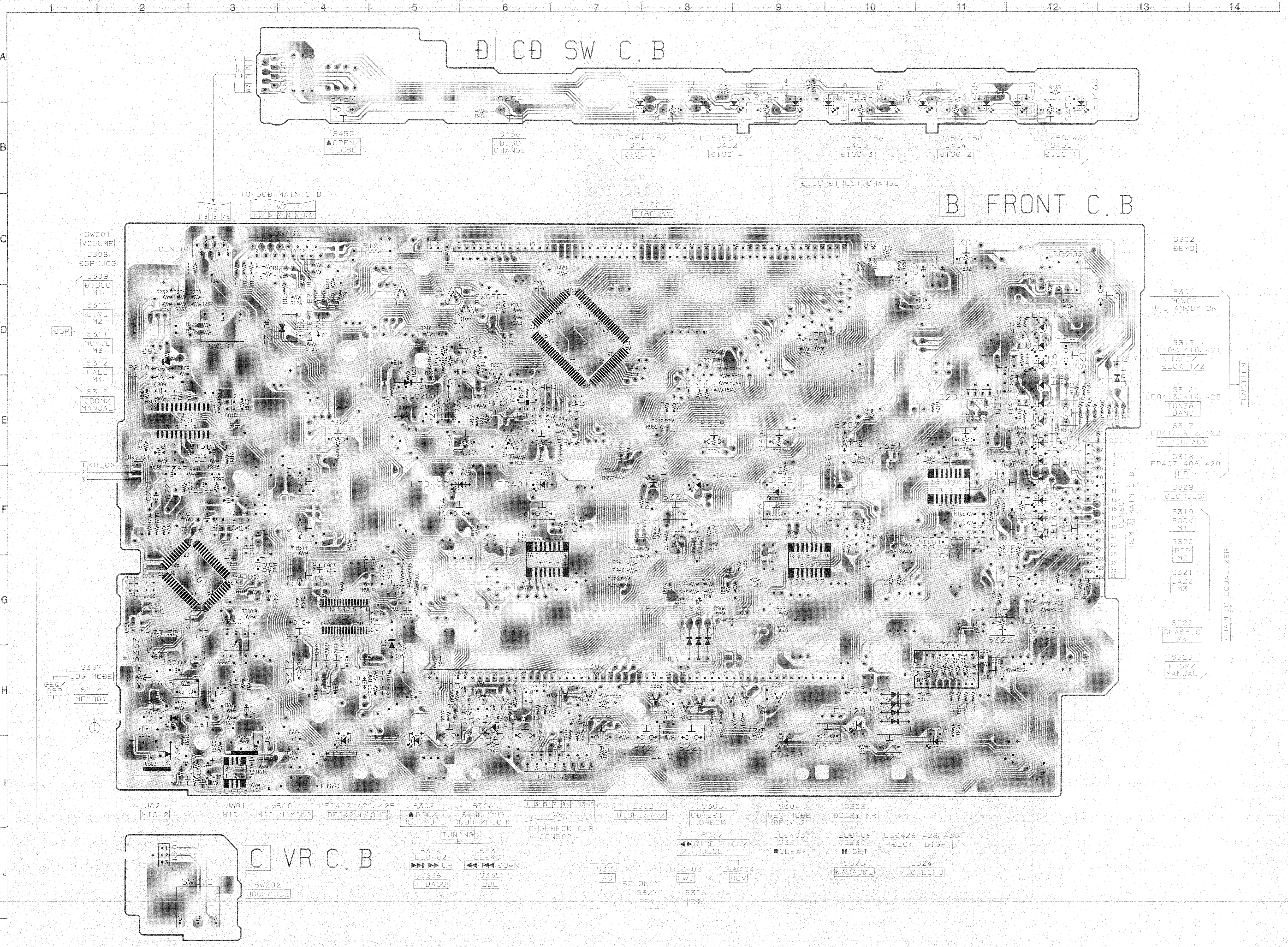
A
B
C
D
E
F
G
H
I
J
D CD SW C.B
CON302
W3
S457
OPEN/CLOSE
S456
DISC CHANGE
LED451, 452
S451
DISC 5
LED453, 454
S452
DISC 4
LED455, 456
S453
DISC 3
LED457, 458
S454
DISC 2
LED459, 460
S455
DISC 1
DISC DIRECT CHANGE
B FRONT C.B
TO SCD MAIN C.B
W3
W2
FL301
DISPLAY
CON301
SW201
VOLUME
S308
DSP (JOG)
S309
DISCO M1
S310
LIVE M2
S311
MOVIE M3
S312
HALL M4
S313
PRGM/ MANUAL
DSP
<RED>
S337
JOG MODE
S314
MEMORY
GEQ/DSP
S302
DEMO
S301
POWER
STANDBY/ON
S315
LED409, 410, 421
TAPE/ DECK 1/2
S316
LED413, 414, 423
TUNER/ BAND
S317
LED411, 412, 422
VIDEO/AUX
S318
LED407, 408, 420
LD
S329
GEQ (JOG)
FUNCTION
S319
ROCK M1
S320
POP M2
S321
JAZZ M3
S322
CLASSIC M4
S323
PRGM/ MANUAL
GRAPHIC EQUALIZER
CON601
FROM A MAIN C.B
EZ ONLY
IC402
IC380
FL302
J621
MIC 2
J601
MIC 1
VR601
MIC MIXING
LED427, 429, 425
DECK2 LIGHT
S307
REC/ REC MUTE
S306
SYNC DUB (NORM/HIGH)
TUNING
S334
LED402
UP
S333
LED401
DOWN
S336
T-BASS
S335
BBE
W6
TO G DECK C.B CON502
FL302
DISPLAY 2
S305
CD EDIT/ CHECK
S332
DIRECTION/ PRESET
LED403
FWD
LED404
REV
S328
AG
EZ ONLY
S327
PTY
S326
RT
S304
REV MODE (DECK 2)
LED405
S331
CLEAR
S303
DOLBY NR
LED406
S330
SET
S325
KARAOKE
LED426, 428, 430
DECK1 LIGHT
S324
MIC ECHO
C VR C.B
SW202
JOG MODE

WIRING – 6 (FRONT)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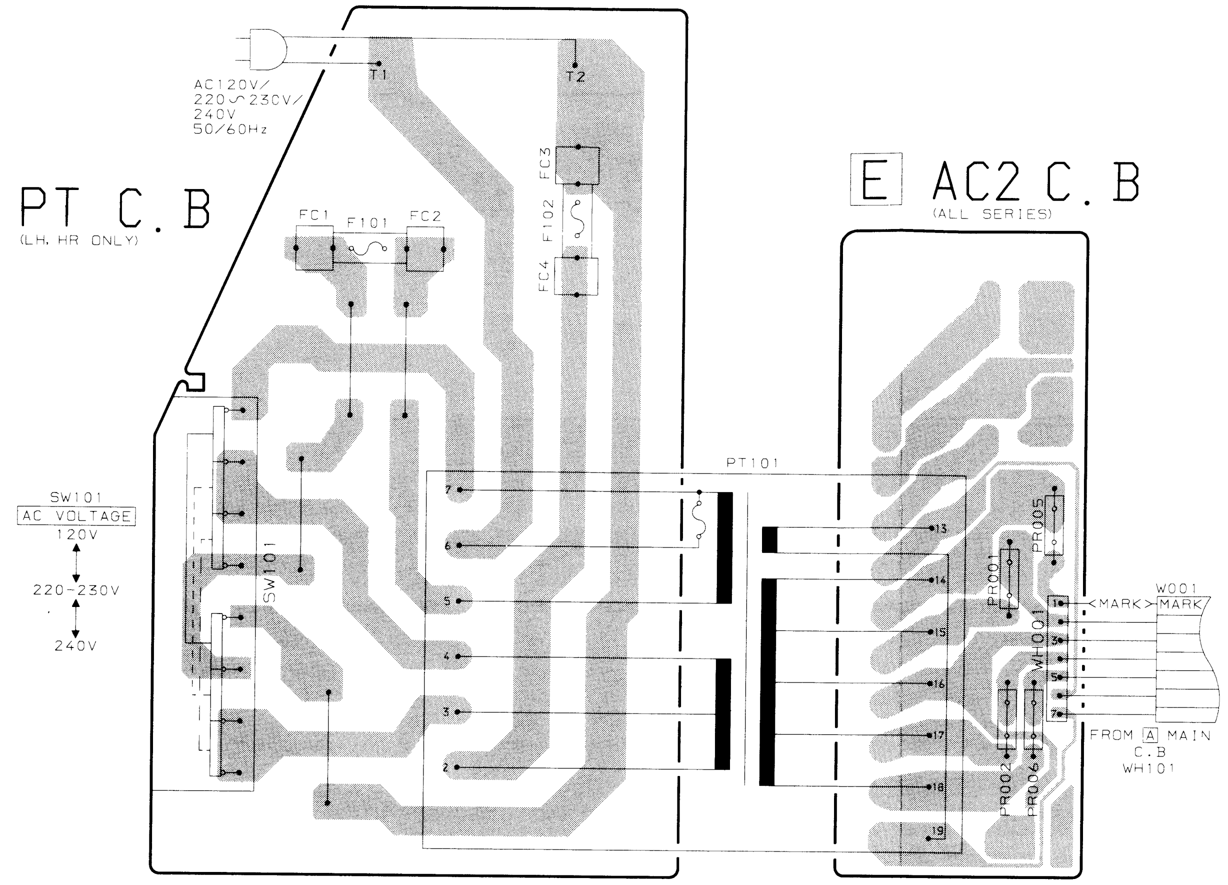
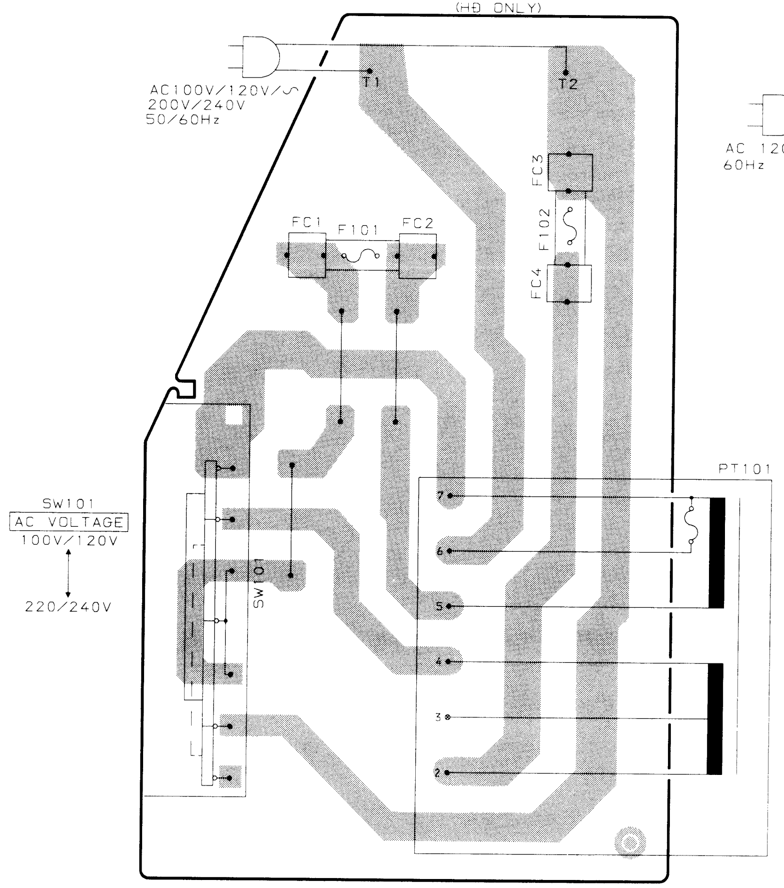
A
B
C
D
E
F
G
H
I
J
D CD SW C.B
S457
▲OPEN/CLOSE
S456
DISC CHANGE
LED451, 452
S451
DISC 5
LED453, 454
S452
DISC 4
LED455, 456
S453
DISC 3
LED457, 458
S454
DISC 2
LED459, 460
S455
DISC 1
DISC DIRECT CHANGE
W3
TO 5CD MAIN C.B
W2
FL301
DISPLAY
B FRONT C.B
SW201
VOLUME
S308
DSP (JOG)
DSP
S309
DISCO M1
S310
LIVE M2
S311
MOVIE M3
S312
HALL M4
S313
PRGM/MANUAL
CON201
<RED>
GEQ/DSP
S337
JOG MODE
S314
MEMORY
S302
DEMO
FUNCTION
S301
POWER
STANDBY/ON
S315
LED409, 410, 421
TAPE/DECK 1/2
S316
LED413, 414, 423
TUNER/BAND
S317
LED411, 412, 422
VIDEO/AUX
S318
LED407, 408, 420
LD
S329
GEQ (JOG)
FROM A MAIN C.B
CON601
GRAPHIC EQUALIZER
S319
ROCK M1
S320
POP M2
S321
JAZZ M3
S322
CLASSIC M4
S323
PRGM/MANUAL
J621
MIC 2
J601
MIC 1
VR601
MIC MIXING
LED427, 429, 425
DECK2 LIGHT
S307
●REC/REC MUTE
S306
SYNC DUB (NORM/HIGH)
W6
TO G DECK C.B
CON502
FL302
DISPLAY 2
S305
CD EDIT/CHECK
S304
REV MODE (DECK 2)
S303
DOLBY NR
TUNING
S334
LED402
▶▶| ▶▶ UP
S336
T-BASS
S333
LED401
◀◀ |◀◀ DOWN
S335
BBE
S332
◀▶DIRECTION/PRESET
LED403
FWD
LED404
REV
S328
AG
EZ ONLY
S327
PTY
S326
RT
LED405
S331
■CLEAR
LED406
S330
II SET
S325
KARAOKE
LED426, 428, 430
DECK1 LIGHT
S324
MIC ECHO
C VR C.B
PIN201
SW202
G
B
A
SW202
JOG MODE

F PT C.B (LH, HR ONLY)

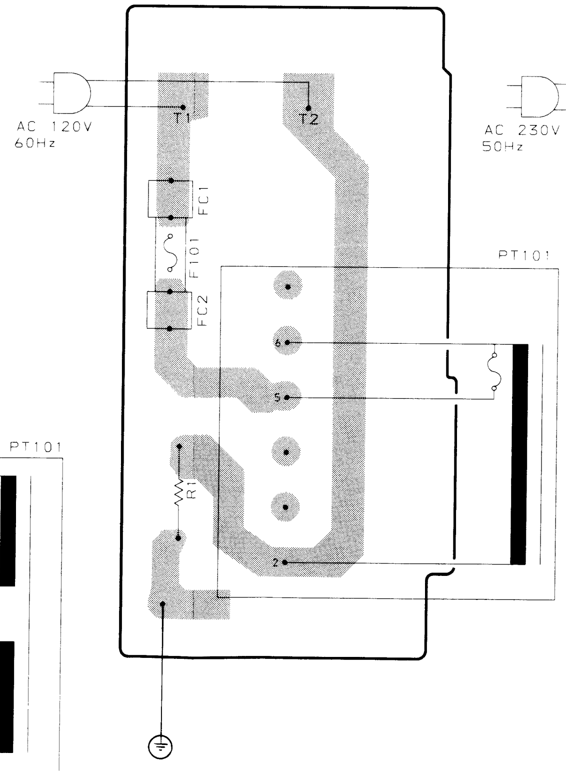
E AC2 C.B (ALL SERIES)


1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J
AC120V/
220～230V/
240V
50/60Hz
T1
T2
FC1
F101
FC2
FC3
F102
FC4
SW101
AC VOLTAGE
120V
220-230V
240V
SW101
PT101
7
6
5
4
3
2
13
14
15
16
17
18
19
PR001
PR005
PR002
PR006
WH001
W001
<MARK>
MARK
FROM A MAIN C.B WH101

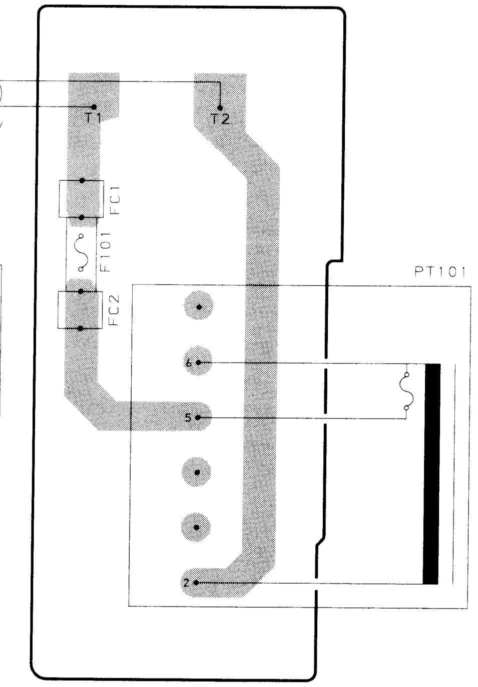
F PT C.B (HD ONLY)


AC100V/120V/～
200V/240V
50/60Hz
T1
T2
FC1
F101
FC2
FC3
F102
FC4
SW101
AC VOLTAGE
100V/120V
220/240V
SW101
PT101
7
6
5
4
3
2

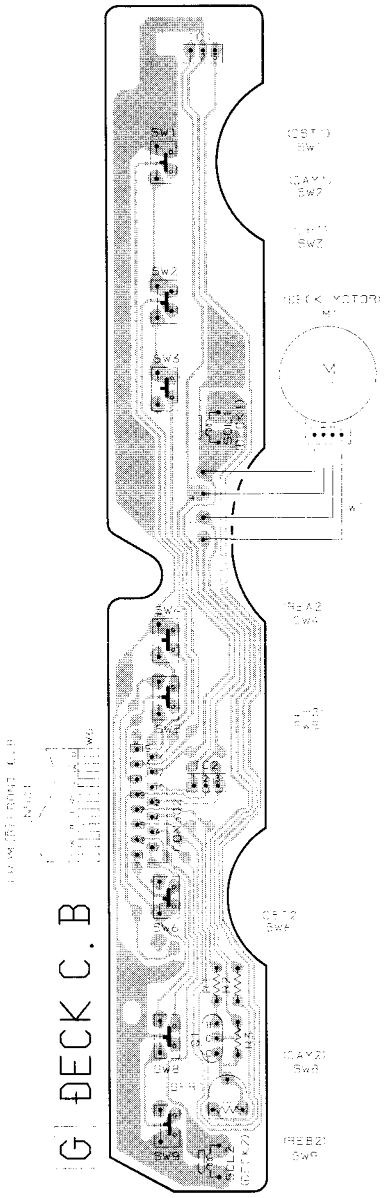
F PT C.B (U ONLY)

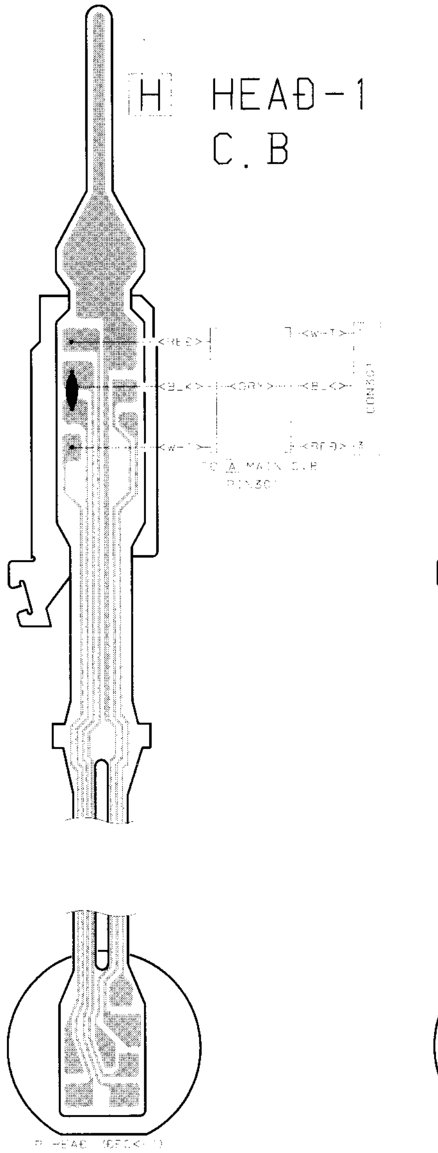

AC 120V
60Hz
T1
T2
FC1
F101
FC2
R1
PT101
6
5
2

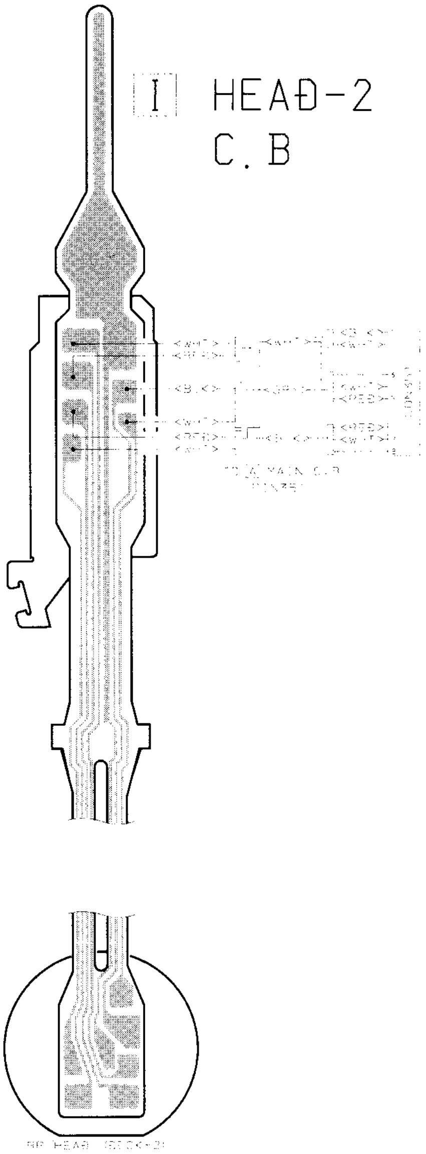
F PT C.B (EZ, K, V ONLY)


AC 230V
50Hz
T1
T2
FC1
F101
FC2
PT101
4
5
2

WIRING – 8 (DECK)


G DECK C.B
IC1
SW1
(CST1) SW1
(CAM1) SW2
SW2
SW3
(DECK MOTOR) M1
M
SW3
SOL1 (DECK1)
W1
(REA2) SW4
SW4
SW5
SW5
IC2
(TO MAIN C.B) (PIN)
W6
SW6
(CST2) SW6
Q1
R1
R2
R3
SW8
(CAM2) SW8
SW9
SOL2 (DECK2)
(REB2) SW9

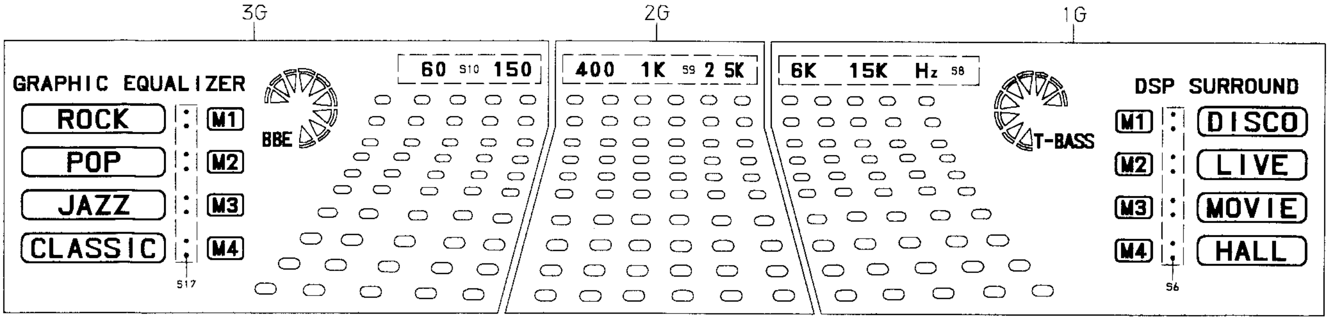

H HEAD-1 C.B
<RED>
<WHT>
<BLK>
<GRY>
<BLK>
CON301
<WHT>
<RED>
TO A MAIN C.B
PIN301
PB HEAD (DECK-1)


I HEAD-2 C.B
<WHT>
<RED>
<WHT>
<BLK>
<WHT>
<BLK>
<GRY>
<WHT>
<RED>
<WHT>
<RED>
<BLK>
<RED>
<WHT>
<WHT>
CON351
TO A MAIN C.B
PIN351
RP HEAD (DECK-2)

FL GRID ASSIGNMENT & ANODE CONNECTION

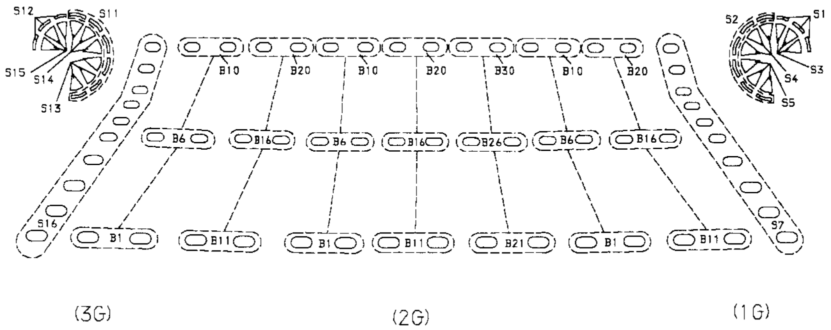
FL, BJ504GK

GRID ASSIGNMENT


3G
2G
1G
GRAPHIC EQUALIZER
ROCK
POP
JAZZ
CLASSIC
M1
M2
M3
M4
S17
BBE
60 S10 150
400 1K S9 2.5K
6K 15K Hz S8
T-BASS
DSP SURROUND
DISCO
LIVE
MOVIE
HALL
S6

BJ504GK
GRID ASSIGNMENT

SEGMENT DESIGNATION


S12
S11
S15
S14
S13
B10
B20
B10
B20
B30
B10
B20
B6
B16
B6
B16
B26
B6
B16
S16
B1
B11
B1
B11
B21
B1
B11
S7
S2
S1
S3
S4
S5
(3G)
(2G)
(1G)

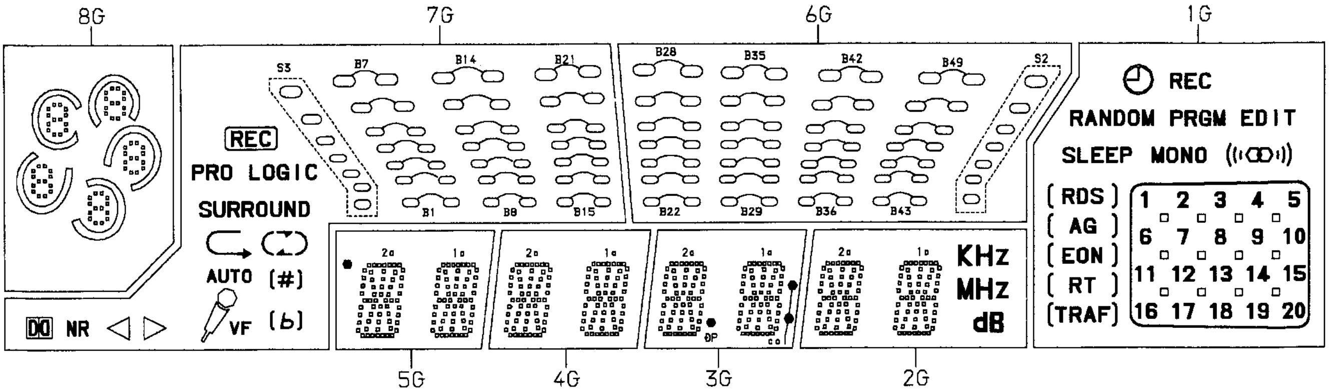
ANODE CONNECTION

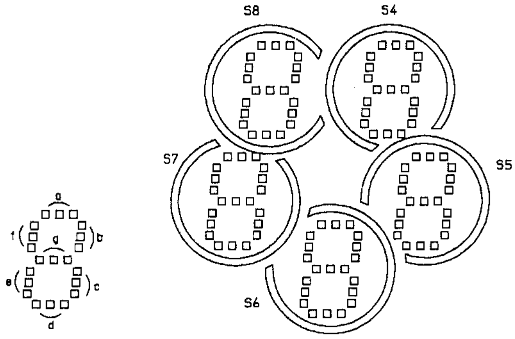
	3G	2G	1G
P1	GRAPHIC EQUALIZER	—	DSP SURROUND
P2	ROCK POP JAZZ CLASSIC	—	DISCO LIVE MOVIE HALL
P3	(ROCK)	—	(DISCO)
P4	(POP)	—	(LIVE)
P5	(JAZZ)	—	(MOVIE)
P6	(CLASSIC)	—	(HALL)
P7	S10	S9	S8
P8	M1 M3 M2 M4	—	M1 M3 M2 M4
P9	▢ (M1)	—	▢ (M1)
P10	▢ (M2)	—	▢ (M2)
P11	▢ (M3)	B30	▢ (M3)
P12	▢ (M4)	B29	▢ (M4)
P13	S11	B28	S1
P14	S12	B27	S2
P15	S13	B26	S3
P16	S14	B25	S4
P17	S15	B24	S5
P18	BBE	B23	T-BASS
P19	S16	B22	S7
P20	S17	B21	S8

	3G	2G	1G
P21	B20	B20	B20
P22	B19	B19	B19
P23	B18	B18	B18
P24	B17	B17	B17
P25	B16	B16	B16
P26	B15	B15	B15
P27	B14	B14	B14
P28	B13	B13	B13
P29	B12	B12	B12
P30	B11	B11	B11
P31	.B10	B10	B10
P32	B9	B9	B9
P33	B8	B8	B8
P34	B7	B7	B7
P35	B6	B6	B6
P36	B5	B5	B5
P37	B4	B4	B4
P38	B3	B3	B3
P39	B2	B2	B2
P40	B1	B1	B1

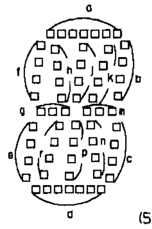
FL, BJ539GK

GRID ASSIGNMENT

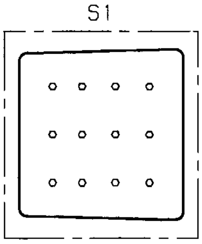

8G
7G
6G
1G
S3
B7
B14
B21
B28
B35
B42
B49
S2
B1
B8
B15
B22
B29
B36
B43
REC
PRO LOGIC
SURROUND
AUTO
(#)
VF
(b)
DD
NR
KHz
MHz
dB
DP
REC
RANDOM PRGM EDIT
SLEEP MONO
RDS
AG
EON
RT
TRAF
1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
16 17 18 19 20
5G
4G
3G
2G


S8
S4
S7
S5
S6
a
f
g
b
e
c
d

(8G)


a
f
h
j
k
b
g
m
e
p
n
c
d

(5G ~2G)



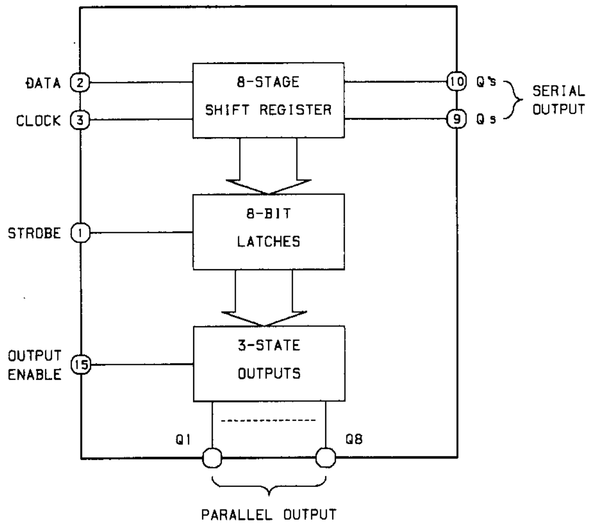
(1G)

ANODE CONNECTION

	8G	7G	6G	5G	4G	3G	2G	1G
P1	5a	—	—	—	—	—	—	**REC**
P2	5b	DD	—	—	—	—	—	🕒
P3	5f	**NR**	—	—	—	—	—	**EDIT**
P4	5g	◁	—	—	—	—	—	**AI**
P5	5c	▷	—	—	—	—	—	**PRGM**
P6	5e	🎤**VF**	—	—	—	—	—	**MONO**
P7	5d	**REC**	—	—	—	—	—	**RANDOM**
P8	S8	S3	S2	—	—	—	—	**SLEEP**
P9	S6	)	—	○	—	—	—	((ꝏ))
P10	3d	⇄	—	2a	2a	2a	2a	**RDS**
P11	3e	(	—	2h	2h	2h	2h	( ) (RDS)
P12	3c	⮕	—	2j	2j	2j	2j	**AG**
P13	3g	((#))	B22	2k	2k	2k	2k	( ) (AG)
P14	3f	B1	B29	2f	2f	2f	2f	**EON**
P15	3b	B8	B36	2b	2b	2b	2b	( ) (EON)
P16	3a	B15	B43	2m	2m	2m	2m	**RT**
P17	S5	#	B23	2g	2g	2g	2g	( ) (RT)
P18	2d	B2	B30	2c	2c	2c	2c	**TRAF**
P19	2e	B9	B37	2e	2e	2e	2e	( ) (TRAF)
P20	2c	B16	B44	2r	2r	2r	2r	**1**
P21	2g	**AUTO**	B24	2p	2p	2p	2p	**2**
P22	2f	B3	B31	2n	2n	2n	2n	**3**
P23	2b	B10	B38	2d	2d	2d	2d	**4**
P24	2a	B17	B45	—	—	col (up)	**KHz**	**5**
P25	S7	**SURROUND**	B25	—	—	col (down)	**MHz**	**6**
P26	4d	B4	B32	—	—	DP	**dB**	**7**
P27	4e	B11	B39	1a	1a	1a	1a	**8**
P28	4c	B18	B46	1h	1h	1h	1h	**9**
P29	4g	**PRO LOGIC**	B26	1j	1j	1j	1j	**10**
P30	4f	B5	B33	1k	1k	1k	1k	**11**
P31	4b	B12	B40	1f	1f	1f	1f	**12**
P32	4a	B19	B47	1b	1b	1b	1b	**13**
P33	S4	((b))	B27	1m	1m	1m	1m	**14**
P34	1d	B6	B34	1g	1g	1g	1g	**15**
P35	1e	B13	B41	1c	1c	1c	1c	**16**
P36	1c	B20	B48	1e	1e	1e	1e	**17**
P37	1g	♭	B28	1r	1r	1r	1r	**18**
P38	1f	B7	B35	1p	1p	1p	1p	**19**
P39	1b	B14	B42	1n	1n	1n	1n	**20**
P40	1a	B21	B49	1d	1d	1d	1d	S1

IC BLOCK DIAGRAM

IC, BU4094BCF


DATA 2
CLOCK 3
STROBE 1
OUTPUT ENABLE 15
8-STAGE SHIFT REGISTER
8-BIT LATCHES
3-STATE OUTPUTS
10 Q's
9 Qs
SERIAL OUTPUT
Q1
Q8
PARALLEL OUTPUT

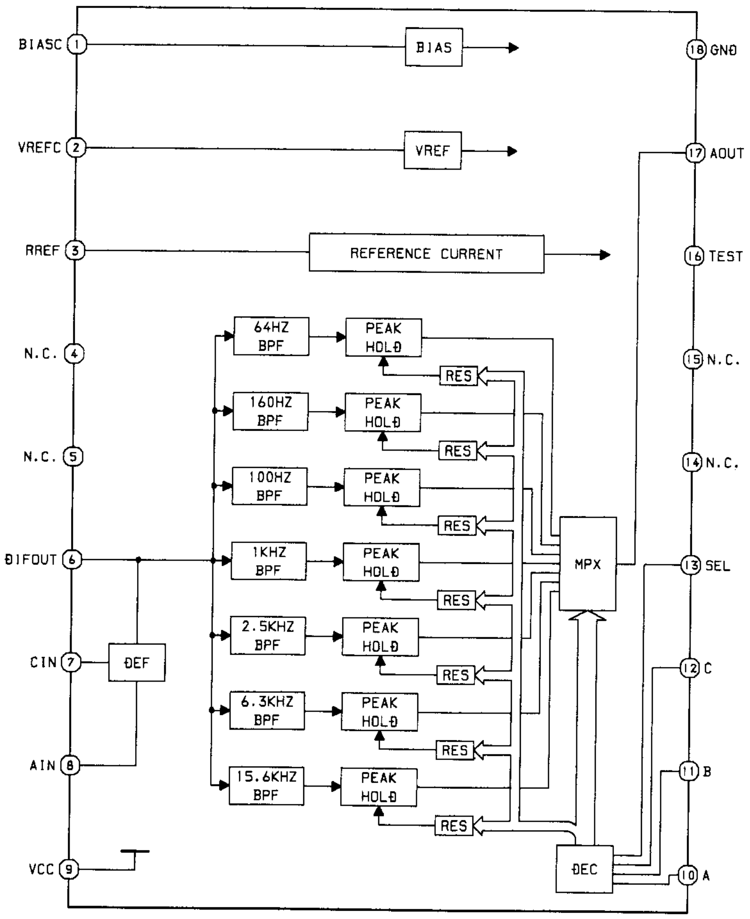
TRUTH TABLE

CLOCK	OUTPUT ENABLE	STROBE	DATA	PARALLEL OUTPUTS		SERIAL OUTPUTS	
				Q1	Qn	Qs	Q's
↑	L	X	X	Z	Z	Q7	NO Chg.
↓	L	X	X	Z	Z	No Chg.	Qs
↑	H	L	X	No Chg.	No Chg.	Q7	No Chg.
↑	H	H	L	L	Qn-1	Q7	No Chg.
↑	H	H	H	H	Qn-1	Q7	No Chg.
↓	H	X	X	No Chg.	No Chg.	No Chg.	Qs

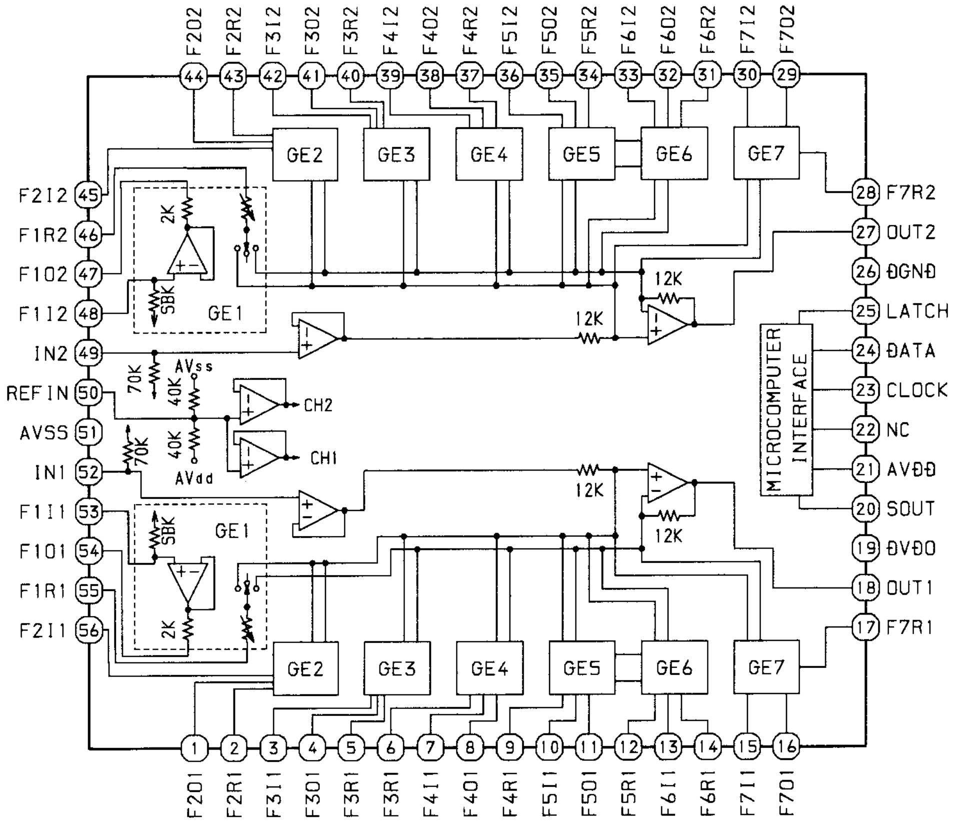
Z=High Impedance

X=Don't Care

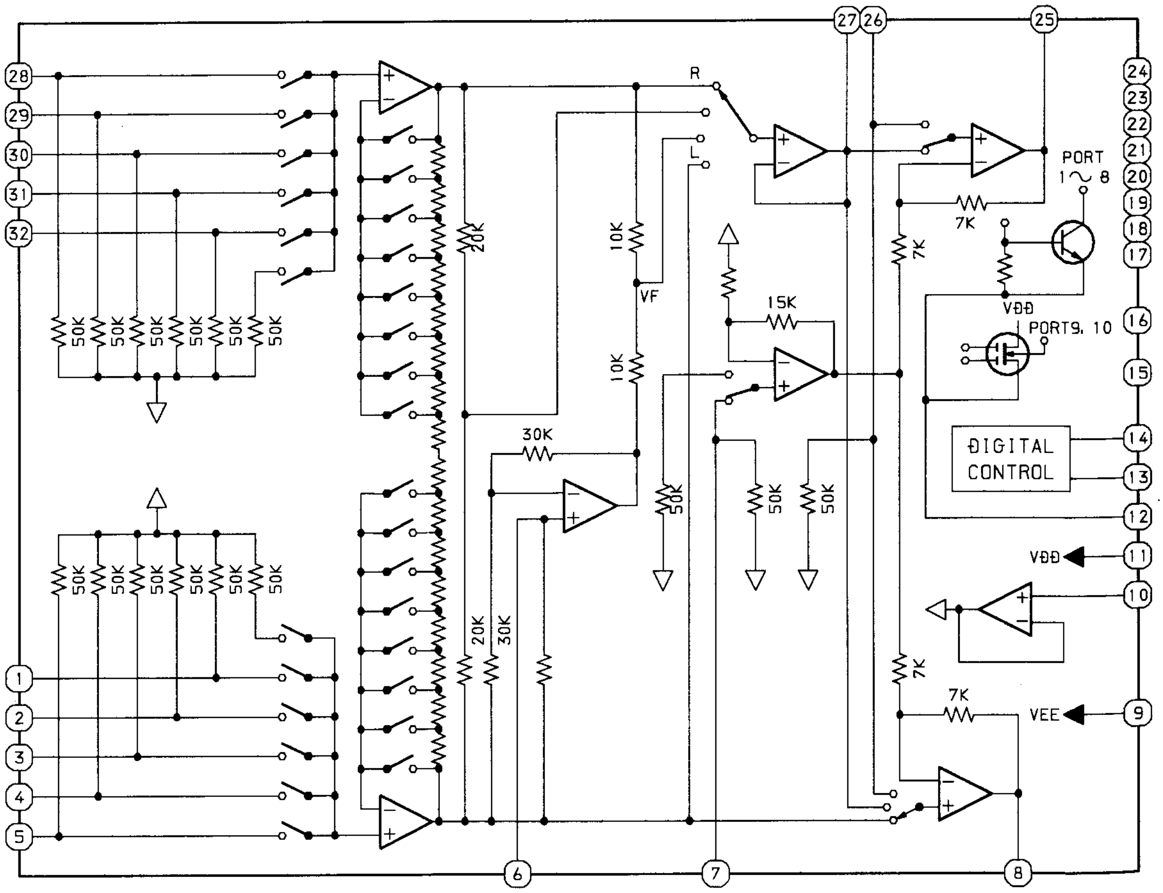
IC, BA3834S


BIASC 1
VREFC 2
RREF 3
N.C. 4
N.C. 5
DIFOUT 6
CIN 7
AIN 8
VCC 9
18 GND
17 AOUT
16 TEST
15 N.C.
14 N.C.
13 SEL
12 C
11 B
10 A
BIAS
VREF
REFERENCE CURRENT
DEF
64HZ BPF
160HZ BPF
100HZ BPF
1KHZ BPF
2.5KHZ BPF
6.3KHZ BPF
15.6KHZ BPF
PEAK HOLD
RES
MPX
DEC

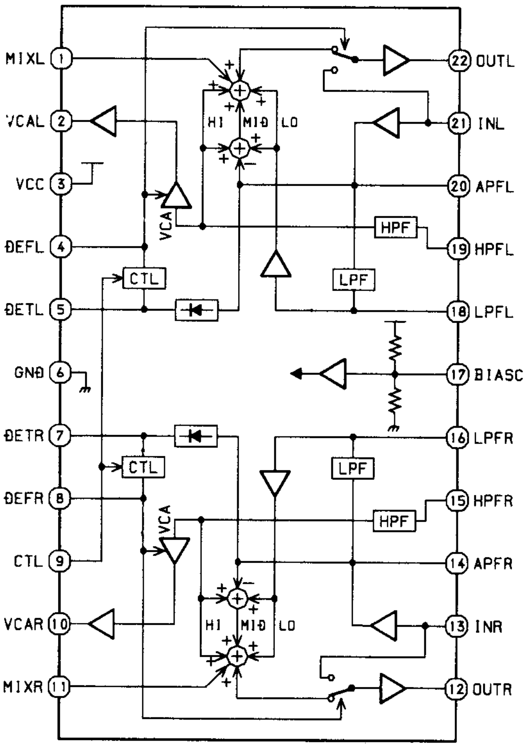
IC, M62431FP


F202
F2R2
F312
F302
F3R2
F412
F402
F4R2
F512
F502
F5R2
F612
F602
F6R2
F712
F702
44
43
42
41
40
39
38
37
36
35
34
33
32
31
30
29
GE2
GE3
GE4
GE5
GE6
GE7
F212 45
F1R2 46
F102 47
F112 48
IN2 49
REFIN 50
AVSS 51
IN1 52
F111 53
F101 54
F1R1 55
F211 56
2K
58K
GE1
70K
AVss
40K
CH2
40K
CH1
70K
AVdd
12K
12K
12K
12K
MICROCOMPUTER INTERFACE
28 F7R2
27 OUT2
26 DGND
25 LATCH
24 DATA
23 CLOCK
22 NC
21 AVDD
20 SOUT
19 DVDD
18 OUT1
17 F7R1
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
F201
F2R1
F311
F301
F3R1
F3R1
F411
F401
F4R1
F511
F501
F5R1
F611
F6R1
F711
F701

IC, BH3810FS

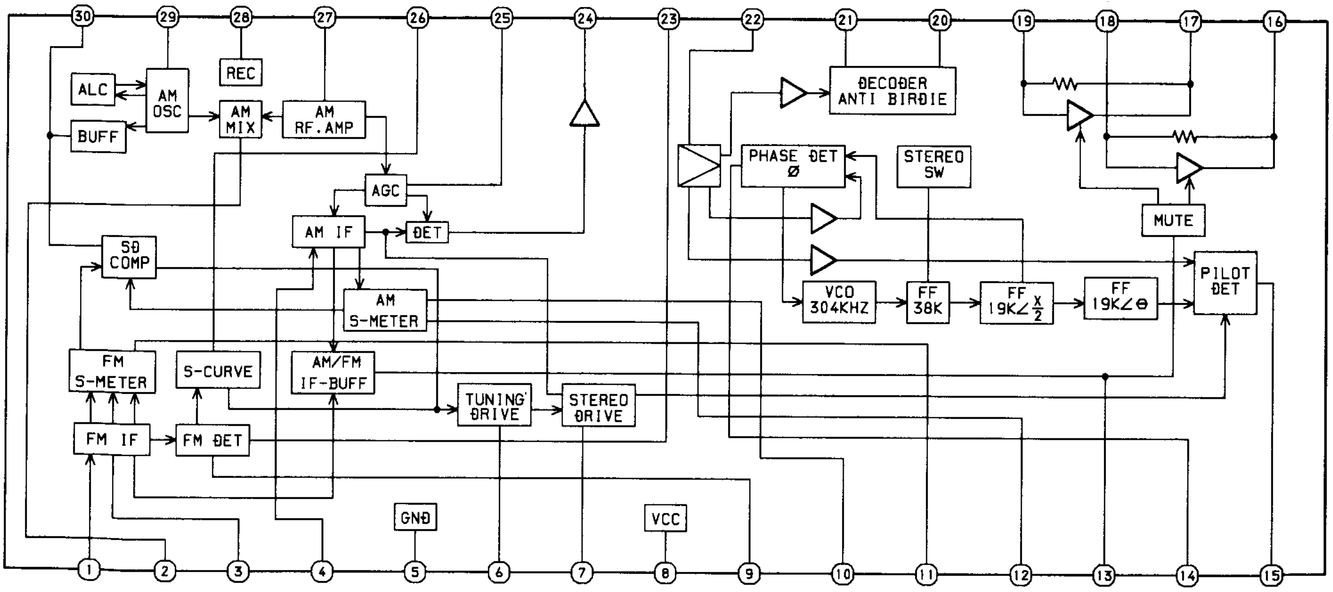

27
26
25
28
29
30
31
32
24
23
22
21
20
19
18
17
16
15
14
13
12
11
10
9
50K
50K
50K
50K
50K
50K
20K
R
L
10K
VF
10K
15K
7K
7K
PORT 1～8
VDD
PORTS. 10
DIGITAL CONTROL
30K
50K
50K
50K
VDD
VEE
20K
30K
7K
7K
1
2
3
4
5
6
7
8

IC, BA3880S



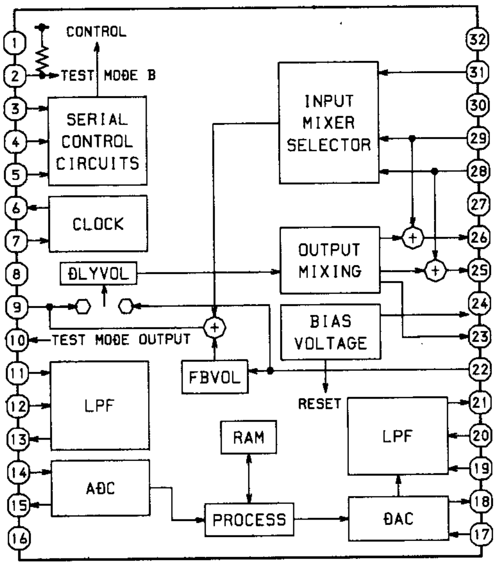
MIXL 1
VCAL 2
VCC 3
DEFL 4
DETL 5
GND 6
DETR 7
DEFR 8
CTL 9
VCAR 10
MIXR 11
22 OUTL
21 INL
20 APFL
19 HPFL
18 LPFL
17 BIASC
16 LPFR
15 HPFR
14 APFR
13 INR
12 OUTR
HI
MID
LO
VCA
CTL
HPF
LPF

IC, LA1837

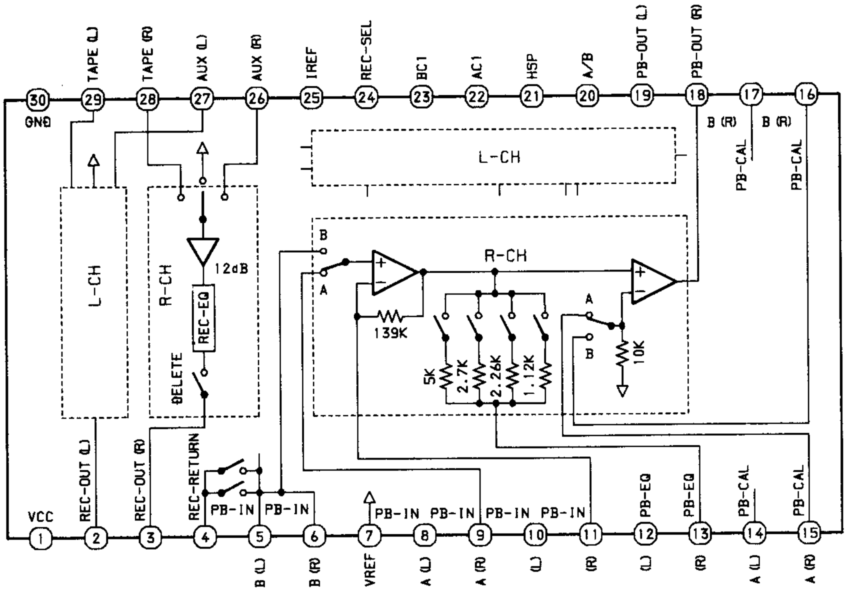


ALC
AM OSC
BUFF
REC
AM MIX
AM RF.AMP
AGC
AM IF
DET
SD COMP
AM S-METER
FM S-METER
S-CURVE
AM/FM IF-BUFF
TUNING DRIVE
STEREO DRIVE
FM IF
FM DET
GND
VCC
DECODER ANTI BIRDIE
PHASE DET Ø
STEREO SW
VCO 304KHZ
FF 38K
FF 19K∠X/2
FF 19K∠θ
PILOT DET
MUTE
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

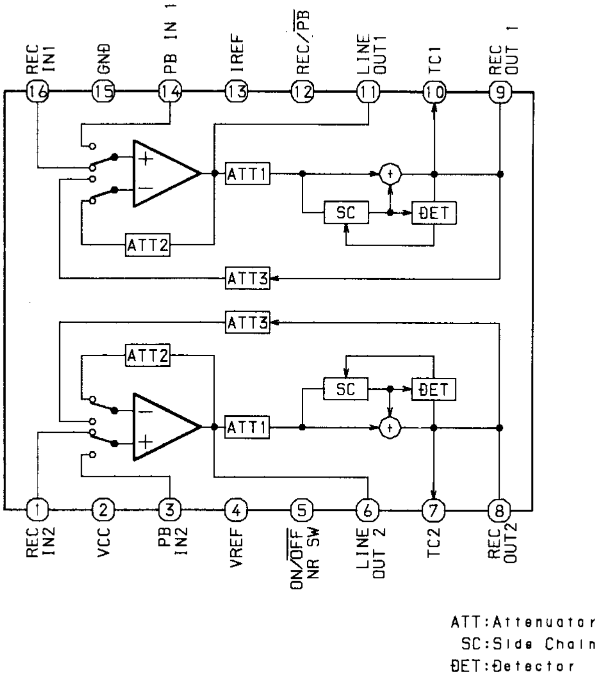
IC, BU9262AFS


CONTROL
TEST MODE B
SERIAL CONTROL CIRCUITS
CLOCK
DLYVOL
TEST MODE OUTPUT
LPF
ADC
INPUT MIXER SELECTOR
OUTPUT MIXING
BIAS VOLTAGE
FBVOL
RESET
RAM
LPF
PROCESS
DAC
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

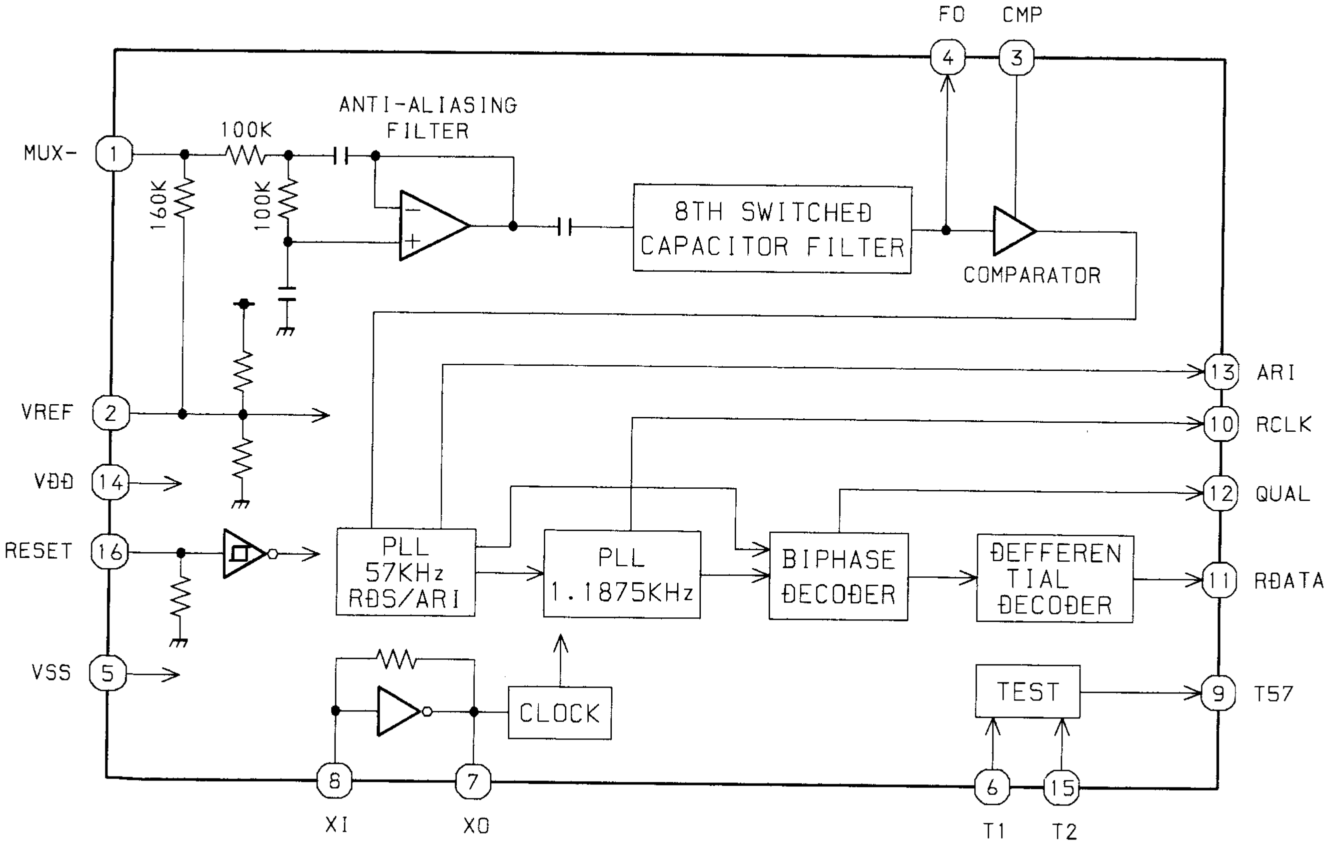
IC, HA12211NT


TAPE (L)
TAPE (R)
AUX (L)
AUX (R)
IREF
REC-SEL
BC1
AC1
HSP
A/B
PB-OUT (L)
PB-OUT (R)
30
GND
29
28
27
26
25
24
23
22
21
20
19
18
17
16
B (R)
B (R)
PB-CAL
PB-CAL
L-CH
L-CH
R-CH
12dB
REC-EQ
DELETE
R-CH
B
A
139K
A
B
10K
5K
2.7K
2.26K
1.12K
VCC
REC-OUT (L)
REC-OUT (R)
REC-RETURN
PB-IN
PB-IN
PB-IN
PB-IN
PB-IN
PB-IN
PB-EQ
PB-EQ
PB-CAL
PB-CAL
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
B (L)
B (R)
VREF
A (L)
A (R)
(L)
(R)
(L)
(R)
A (L)
A (R)

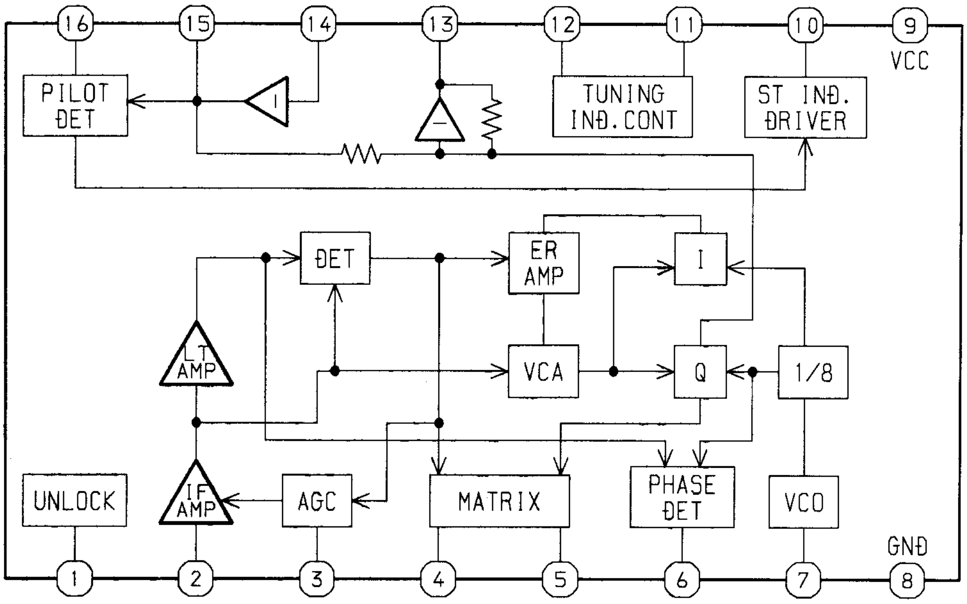
IC, CXA1553P


REC IN1
GND
PB IN 1
IREF
REC/$\overline{PB}$
LINE OUT1
TC1
REC OUT 1
16
15
14
13
12
11
10
9
ATT1
ATT2
ATT3
SC
DET
ATT3
ATT2
ATT1
SC
DET
1
2
3
4
5
6
7
8
REC IN2
VCC
PB IN2
VREF
ON/$\overline{OFF}$ NR SW
LINE OUT 2
TC2
REC OUT2
ATT:Attenuator
SC:Side Chain
DET:Detector

IC, BU1920FS


FO
CMP
4
3
ANTI-ALIASING FILTER
100K
MUX-
1
160K
100K
8TH SWITCHED CAPACITOR FILTER
COMPARATOR
13
ARI
VREF
2
10
RCLK
VDD
14
12
QUAL
RESET
16
PLL 57KHz RDS/ARI
PLL 1.1875KHz
BIPHASE DECODER
DEFFERENTIAL DECODER
11
RDATA
VSS
5
CLOCK
TEST
9
T57
8
7
6
15
XI
XO
T1
T2

IC, TA2040AF


16
15
14
13
12
11
10
9
VCC
PILOT DET
TUNING IND.CONT
ST IND. DRIVER
DET
ER AMP
I
LT AMP
VCA
Q
1/8
IF AMP
AGC
MATRIX
PHASE DET
VCO
UNLOCK
GND
1
2
3
4
5
6
7
8

IC DESCRIPTION

IC, LC866556W-5E74 (EXCEPT EZ)
IC, LC866560W-5E98 (EZ)

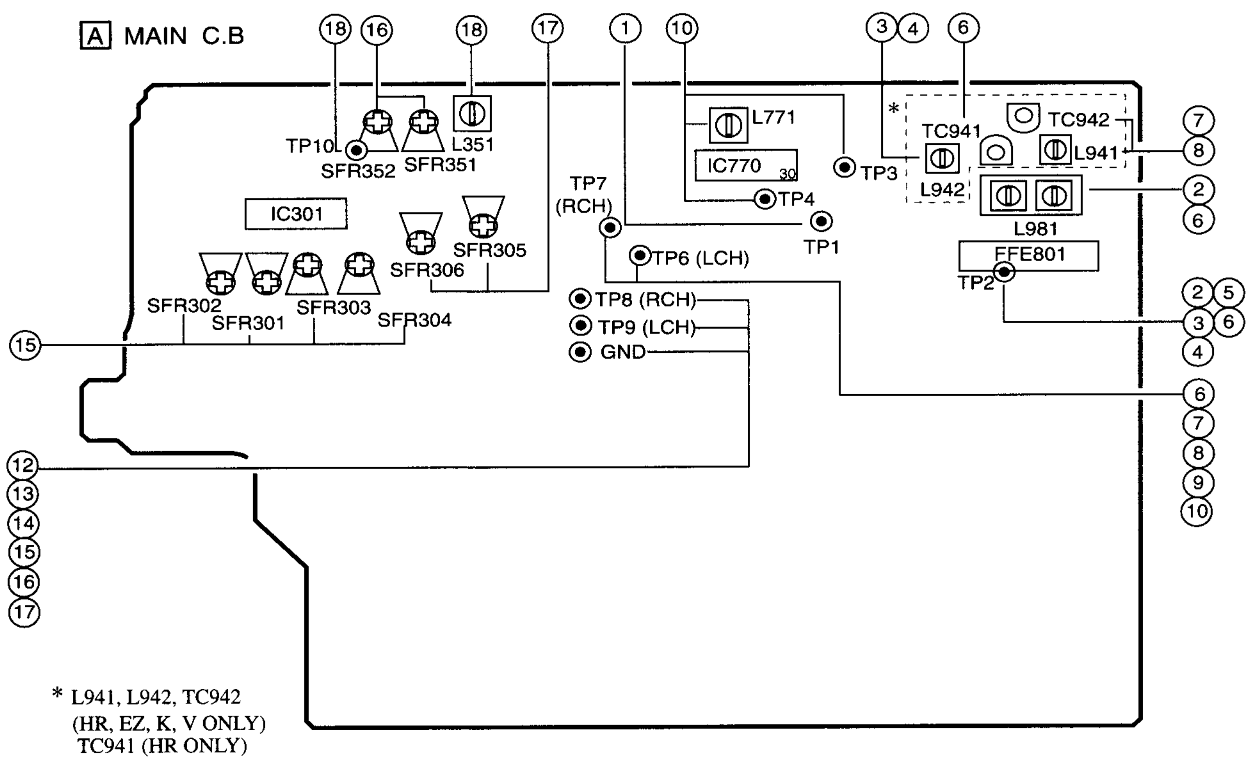
Pin No.	Pin Name	I/O	Description
1	RT-A	I	Rotary encorder input (electric volume).
2	RT-B	I	Rotary encorder input (electric volume).
3	RT-C	I	Rotary encorder input (multi jog switch).
4	XLT (CD)	O	XLT (CD) output.
5	CLK (CD)	O	CLOCK (CD) output.
6	O-GE LATCH	O	G.E data latch strobe output.
7	NC	–	Not used.
8	LED CE	O	LED shift resistor chip enable.
9	O-POWER	O	Power on signal output.
10	O-MUTE	O	System mute output.
11	RT-D	I	Rotary encorder input (multi jog switch).
12	RESET	I	Reset input.
13	I-HP-MUTE	I	Headphone switch data input.
14	I-MIC	I	Microphone input for auto vocal fader display .
15	VSS1	–	GND.
16	CF1	I	5.76 MHz oscillator circuit.
17	CF2	O	5.76 MHz oscillator circuit.
18	VDD1	–	Power supply input.
19	HOLD	I	Power failure detected input "L" to stop lock & maintain memory.
20	KEY 1 ~ 3	I	Key input 1 ~ 3 (A/D).
23	I-CDSW	I	CD mechanical switch A/D converter input.
24	I-DI-SENS	I	CD turntable photo sensor A/D converter input.
25	I-TU-SIG/MS	I	Tuner signal input & deck music sensor signal input.
26	I-SPEANA	I	A/D input for spectrum analyzer display.
27	I-RDS-CLK/I-SENS	I	Tuner RDS clock input /CD sens input.
28	I-TM BASE	I	Reference clock input for timer watch.
29	I-RMC	I	System remote control signal input.
30 ~ 37	G1 ~ G8	O	FL grid output G1 ~ G8.
38 ~ 41	S1 ~ S4	O	FL segment output S1 ~ S4.
42 ~ 44	G9 ~ G11	O	FL grid output G9 ~ G11.
45	S5	O	FL segment output S5.
46	VDD3	–	Power supply input.
47 ~ 50	S6 ~ S9	O	FL segment output S6 ~ S9.
51	-VFL	–	Power supply input for FL display.
52 ~ 60	S10 ~ S18	O	FL segment output S10 ~ S18.
61	S19/O-SPEANA C	I/O	FL segment output S19 / SPEANA band changing C output.
62	S20/O-SPEANA B	I/O	FL segment output S20 / SPAENA band changing B output.
63	S21/O-SPEANA A	I/O	FL segment output S21 / SPEANA band changing A output.
64	S22/CST-1	I/O	FL segment output S22 / DECK1 cassette detect switch data input.
65	S23/AUTO1	I/O	FL segment output S23 / DECK1 auto stop signal input.
66	S24/CAM1	I/O	FL segment output S24 / DECK1 cam switch data input.
67	S25/CAM2	I/O	FL segment output S25 / DECK2 cam switch data input.

Pin No.	Pin Name	I/O	Description
68	S26/$\overline{\text{AUTO2}}$	I/O	FL segment output S26 / DECK2 auto stop signal input.
69	S27/$\overline{\text{CST2}}$	I/O	FL segment output S27 / DECK2 cassette detect switch data input.
70	S28/$\overline{\text{REA}}$	I/O	FL segment output S28 / DECK2 side-A record ok switch data input.
71	S29/$\overline{\text{REB}}$	I/O	FL segment output S29 / DECK2 side-B record ok switch data input.
72	VDD4	–	Power supply input.
73	S30/PRO LOGIC	I/O	FL segment output S30 / Pro logic diode data input to diode.
74	S31/D-TG	I/O	FL segment output S31 / Tracking gain +2dB up switch.
75	S32/SEL1	I/O	FL segment output S32 / Tuner model select mode data1 input to diode.
76	S33/SEL2	I/O	FL segment output S33 / Tuner model select mode data2 input to diode.
77	S34/SEL3	I/O	FL segment output S34 / Tuner model select mode data3 input to diode.
78	S35/C-ATG	I/O	FL segment output S35 / Switch of cancel auto tracking gain.
79	S36/C-ATB	I/O	FL segment output S36 / Switch of cancel auto tracking balance.
80	S37/C-FB	I/O	FL segment output S37 / Switch of adjust focus bias center.
81	S38/+3dB	I/O	FL segment output S38 / Switch of increase +3dB for E-VR.
82	S39	O	FL segment output S39
83	S40	O	FL segment output S40.
84	K-SCAN	O	Switch scan timing output.
85	O-OPEN	O	CD tray open data output.
86	O-CLOSE	O	CD tray close data output.
87	O-DI/R	O	CD turntable reverse rotation output.
88	O-DI/F	O	CD turntable forward rotation output.
89	VSS2	–	GND.
90	VDD2	–	Power supply input.
91	O-MOTOR	O	Deck motor output.
92	O-$\overline{\text{SOL2}}$	O	DECK2 solenoid output (DECK2).
93	O-$\overline{\text{SOL1}}$	O	DECK1 solenoid output (DECK1).
94	O-M/STB	O	Main shift register data latch strobe output.
95	O-M/DATA	O	Main shift register, PLL / DSP / E-VR / GE / FUNC / PRO LOGIC related data output.
96	O-M/CLK	O	Main shift register, PLL / DSP / E-VR / GE / FUNC / PRO LOGIC related clock.
97	O-PLL-CE	O	PLL IC chip enable.
98	I-TUNER IFC/ I-SUBQ DATA	I	Tuner $\overline{\text{SD}}$ detected input. IF count serial data input / CD.SUBQ input.
99	I-STEREO/ O-SUBQ CLK	I/O	Tuner stereo detected input / SUBQ clock (CD) output.
100	I-RDS-DATA/ DATA (CD)	I/O	RDS data input (TUNER) / Data CD output.

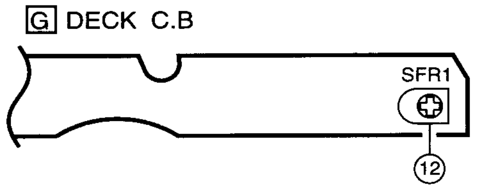
IC, LC72131

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>1</td><td>XIN</td><td rowspan="2">I/O</td><td rowspan="2">A crystal oscillator (7.2MHz) is connected between these pins.</td></tr>
<tr><td>22</td><td>XOUT</td></tr>
<tr><td>2</td><td>NC</td><td>–</td><td>Not used.</td></tr>
<tr><td>3</td><td>CE</td><td>I</td><td>To enable the IC. Active "H".</td></tr>
<tr><td>4</td><td>DI</td><td>I</td><td>Digital data input from CPU (LC866556W-5E74/LC866560W-5E98) when relevant key is operated. Active "H".</td></tr>
<tr><td>5</td><td>CLK</td><td>I</td><td>To clock in the data DI.</td></tr>
<tr><td>6</td><td>DO</td><td>O</td><td>Digital data output to CPU (LC866556W-5E74/LC866560W-5E98).</td></tr>
<tr><td>7</td><td>TM-BASE</td><td>O</td><td>Outputs a reference clock signal (8Hz) for the clock.</td></tr>
<tr><td>8</td><td>$\overline{\text{MONO}}$ / BEAT</td><td>O</td><td>Outputs "H" when MONO / BEAT is switched.</td></tr>
<tr><td>9</td><td>$\overline{\text{FM}}$ / AM</td><td>O</td><td>Output "L" or "H" as follows:
<table>
<tr><th colspan="2">2 BAND</th><th colspan="3">3 BAND</th><th colspan="3">3 BAND</th></tr>
<tr><td>AM</td><td>FM</td><td>LW</td><td>MW</td><td>FM</td><td>MW</td><td>SW</td><td>FM</td></tr>
<tr><td>H</td><td>L</td><td>H</td><td>H</td><td>L</td><td>H</td><td>L</td><td>L</td></tr>
</table></td></tr>
<tr><td>10</td><td>$\overline{\text{MW}}$</td><td>O</td><td>Outputs "L" or "H" as follows:
<table>
<tr><th colspan="2">2 BAND</th><th colspan="3">3 BAND</th><th colspan="3">3 BAND</th></tr>
<tr><td>AM</td><td>FM</td><td>LW</td><td>MW</td><td>FM</td><td>MW</td><td>SW</td><td>FM</td></tr>
<tr><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>L</td><td>H</td><td>L</td></tr>
</table></td></tr>
<tr><td>11</td><td>IF-MUTE</td><td>O</td><td>To control internal counter.</td></tr>
<tr><td>12</td><td>IFIN</td><td>I</td><td>General purpose counter input.</td></tr>
<tr><td>13</td><td>$\overline{\text{TUNE}}$</td><td>I</td><td>Receives "L" when station is tuned.</td></tr>
<tr><td>14</td><td>NC</td><td>–</td><td>Not used.</td></tr>
<tr><td>15</td><td>A MIN</td><td>I</td><td>Receives the AM local oscillator frequency signal.</td></tr>
<tr><td>16</td><td>F MIN</td><td>I</td><td>Receives the FM local oscillator frequency signal.</td></tr>
<tr><td>17</td><td>VDD</td><td>–</td><td>Supply power to IC (+5V).</td></tr>
<tr><td>18</td><td>PD</td><td>O</td><td>PLL charge pump output.</td></tr>
<tr><td>19</td><td>AIN</td><td>I</td><td rowspan="2">The MOS transistor for PLL active low pass filter.</td></tr>
<tr><td>20</td><td>AOUT</td><td>O</td></tr>
<tr><td>21</td><td>VSS</td><td>–</td><td>Ground.</td></tr>
</table>

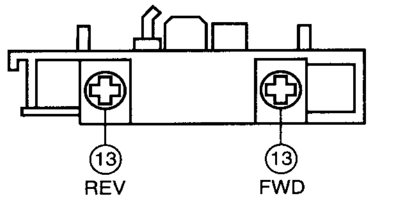
ADJUSTMENT <TUNER / DECK>



* L941, L942, TC942
(HR, EZ, K, V ONLY)
TC941 (HR ONLY)



DECK–1 P, DECK–2 R / P / E HEAD



< TUNER SECTION >

1. Clock Frequency Check
   Settings : • Test point : TP1 (CLK IC770 pin30)
   Method : Set to MW 1710kHz (HR, LH, U), 1602kHz (EZ, K, V, HD) and check that the test point is 2160kHz ± 45Hz (HR, LH, U), 2052kHz ± 45Hz (EZ, K, V, HD).

2a. MW VT Adjustment (HR)
   Settings : • Test point : TP2 (VT)
   • Adjustment location : L981
   Method : Set to MW 1710kHz and adjust L981 so that the test point is 8.5V ± 0.05V. Then set to MW 530kHz and check that the test point is more than 0.3V.

2b. MW VT Adjustment (EXCEPT HR)
   Settings : • Test point : TP2 (VT)
   • Adjustment location : L981
   Method : Set to MW 531kHz (EZ, K, V, HD), 530kHz (LH, U) and adjust L981 so that the test point is 1.5V ± 0.05V. Then set to MW 1602kHz (EZ, K, V, HD), 1710kHz (LH, U) and check that the test point is less than 8.5V (EZ, K, V, HD), 6.0V ± 1.0V (LH,U).

3. LW VT Adjustment (EZ, K, V)
   Settings : • Test point : TP2 (VT)
   • Adjustment location : L942
   Method : Set to LW 144kHz and adjust L942 so that the test point is 1.3V ± 0.05V. Then set to LW 290 kHz and check test point is less than 6.0V.

4. SW VT Adjustment (HR)
   Settings : • Test point : TP2 (VT)
   • Adjustment location : L942
   Method : Set to SW 17.9MHz and adjust L942 so that the test point is 7.0V ± 0.05V.

5. FM VT Check
   Settings : • Test point : TP2 (VT)
   Method : Set to FM 76.0 MHz (HD), 87.5MHz (EXCEPT HD) and check that the test point is more than 0.4V (HD), 1.5V (EXCEPT HD). Then set to FM 108MHz and check the test point is less than 9.0V (HD), 8.5V (EXCEPT HD).

6a. MW Tracking Adjustment (HR)
   Settings : • Test point : TP6,TP7
   • Adjustment location :
   L981 .... 600kHz
   TC941 .... 1400kHz
   Method : Set up TC941 to center before adjustment, the level at 600kHz is adjusted to MAX by L981. Then the level at 1400kHz is adjusted to MAX by TC941.

6b. MW Tracking Adjustment (EXCEPT HR)
   Settings : • Test point : TP6, TP7
   • Adjustment location : L981
   Method : Set to MW 1000kHz (LH, U), 999kHz (EZ, K, V, HD) and adjust L981 so that the test point becomes MAX.

7. LW Tracking Adjustment (EZ, K, V)
   Settings : • Test point : TP6,TP7
   • Adjustment location :
   L941 .... 144kHz
   TC942 .... 290kHz
   Method : Set up TC942 to center before adjustment. The level at 144kHz is adjusted to MAX by L941 .Then the level at 290kHz is adjusted to MAX by TC942.

8. SW Tracking Adjustment (HR)
   Settings : • Test point : TP6,TP7
   • Adjustment location :
   L941 .... 5.9MHz
   TC942 .... 17.9MHz
   Method : Set up TC942 to center before adjustment. The level at 5.9MHz is adjusted to MAX by L941 .Then the level at 17.9MHz is adjusted to MAX by TC942.

9. FM Tracking Check
   Settings : • Test point : TP6(Lch), TP7(Rch)
   Method : Set to FM 83.0MHz (HD), 98.0MHz (EXCEPT HD) and check that the test point is 6dB ± 6dB (EZ, K), 2dB ± 6 dB (EXCEPT EZ, K).

10. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP3, TP4 (DC balance)
   : TP6, TP7 (Distortion)
   • Adjustment location : L771
   • Input level : 54dB
   Method : Set to FM 98.0MHz and adjust L771 so that the voltage between TP3 and TP4 becomes 0V ± 0.04V. Next, check that the distortion is less than 1.3%.

11. Auto Stop Level Check

   MW
   Settings : • Input level :Variable
   Method : Check the auto stop at MW 1000kHz(LH,U), 999kHz (EXCEPT LH, U) and the input level is 50dB+10/-15dB.

   FM
   Settings : • Input level :Variable
   Method : Check the auto stop at FM 83.0MHz (HD), 98.0MHz (EXCEPT HD) and the input level is 25dB ± 10dB.

   SW (HR)
   Settings : • Input level :Variable
   Method : Check the auto stop at SW 12.0MHz and the input level is less than 60dB.

< DECK SECTION >

12. Tape Speed Adjustment
   Settings : • Test tape : TTA–100
   • Test point : TP8, TP9
   • Adjustment location : SFR1
   Method : Play back the test tape and adjust SFR1 so that the frequency counter reads 3000Hz ± 5Hz.

13. Head Azimuth Adjustment (DECK1, DECK2)
   Settings : • Test tape : TTA–300
   • Test point : TP8, TP9
   • Adjustment location : Head azimuth adjustment screw
   Method : Play back the 10kHz signal of the test tape and adjust screw so that the output becomes maximum.

14. PB Frequency Response Check (DECK 1, DECK 2)
   Settings : • Test tape : TTA–300
   • Test point : TP8, TP9
   Method : Play back the 315Hz and 10kHz signals of the test tape and check that the output ratio of the 10kHz signal with respect to that of the 315Hz signal is 0 ± 2dB. Lch and Rch difference level of 10kHz is less than 2.0dB.

15. PB Sensitivity Adjustment (DECK 1, DECK 2)
   Settings : • Test tape : TTA–200
   • Test point : TP8, TP9
   • Adjustment location : SFR301 (DECK 1, Lch)
   SFR302 (DECK 1, Rch)
   SFR303 (DECK 2, Lch)
   SFR304 (DECK 2, Rch)
   Method : Play back the test tape and adjust SFRs so that the output level of the test point becomes 245mV.

16. REC/PB Frequency Response Adjustment
   Settings : • Test tape : TTA–602
   • Test point : TP8, TP9
   • Input signal : 1kHz / 10kHz (LINE IN)
   • Adjustment location : SFR351 (Lch)
   SFR352 (Rch)
   Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP8, TP9 becomes 170mV. Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output of the 10kHz signals becomes 0dB ± 0.5dB with respect to that of the 1kHz signal.

17. REC/PB Sensitivity Adjustment
   Settings : • Test tape : TTA–602
   • Test point : TP8, TP9
   • Input signal : 1kHz (LINE IN)
   • Adjustment location : SFR305 (Lch)
   SFR306 (Rch)
   Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP8, TP9 becomes 17mV. Record and play back the 1kHz signals and check that the output is 17mV ± 0.5dB.

18. Bias OSC Frequency Adjustment
   Settings : • Test tape : TTA–615
   • Test point : TP10
   • Adjustment location : L351
   Method : Set to the REC mode. Adjust L351 so that the frequency at the test point is 85kHz ± 1kHz.

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity : 6dB ± 6dB
(THD 3%) [at 65.0 / 70.0 / 74.0MHz (V)]
[at 87.5 / 98.0 / 108.0MHz (EZ,K)]
[at 76.0 / 83.0 / 108.0MHz (HD)]
4dB ± 6dB
[at 87.5 / 98.0 / 108.0MHz (U,LH,HR)]
S/N 50dB Quieting sensitivity :
33dB ± 6dB
[at 65.0 / 70.0 / 74.0MHz (V)]
34dB ± 6dB
[at 87.5 / 98.0 / 108.0MHz (EZ,K)]
31dB ± 5dB
[at 76.0 / 83.0 / 108.0MHz (HD)]
30dB ± 6dB
[at 87.5 / 98.0 / 108.0MHz (U,LH,HR)]
Signal to noise ratio : Mono :
More than 60dB (EZ,K)
More than 65dB (U,LH,HR,V,HD)
[at 83.0MHz (HD)]
[at 98.0MHz (EXCEPT HD)]
Stereo :
More than 59dB (EZ,K)
More than 64dB (U,LH,HR,V,HD)
[at 83.0MHz (HD)]
[at 98.0MHz (EXCEPT HD)]
Distortion : Mono :
Less than 1.3%
[at 83.0MHz (HD)]
[at 98.0MHz (EXCEPT HD)]
Stereo :
Less than 2.0%
[at 83.0MHz (HD)]
[at 98.0MHz (EXCEPT HD)]
Auto stop level : 30dB ± 10dB (EZ)
25dB ± 10dB (EXCEPT EZ)
[at 83.0MHz (HD)]
[at 98.0MHz (EXCEPT HD)]
Stereo separation : More than 25dB
[at 83.0MHz (HD)]
[at 98.0MHz (EXCEPT HD)]
Intermediate frequency : 10.7MHz

<AM(MW) SECTION>

Sensitivity : 55dB ± 5dB
(S/N 20 dB) [at 603kHz (EXCEPT U,LH)]
[at 600kHz (U,LH)]
53dB ± 5dB
[at 999kHz (EXCEPT U,LH)]
[at 1000kHz (U,LH)]
53dB ± 5dB
[at 999kHz (EXCEPT U,LH)]
[at 1400kHz (U,LH)]
Signal to noise ratio : More than 36dB
[at 999kHz (EXCEPT U,LH)]
[at 1000kHz (U,LH)]
Distortion : Less than 1.5%
[at 999kHz (EXCEPT U,LH)]
[at 1000kHz (U,LH)]
Auto stop level : 50dB + 10/-15dB
[at 999kHz (EXCEPT U,LH)]
[at 1000kHz (U,LH)]
Intermediate frequency : 450kHz

<SW SECTION>(HR)

Sensitivity : 38dB ± 5dB [at 5.9MHz]
(S/N 20dB) 34dB ± 5dB [at 12.0MHz]
30dB ± 8dB [at 17.9MHz]
Signal to noise ratio : More than 36dB [at 12.0MHz]
Distortion : Less than 1.5% [at 12.0MHz]

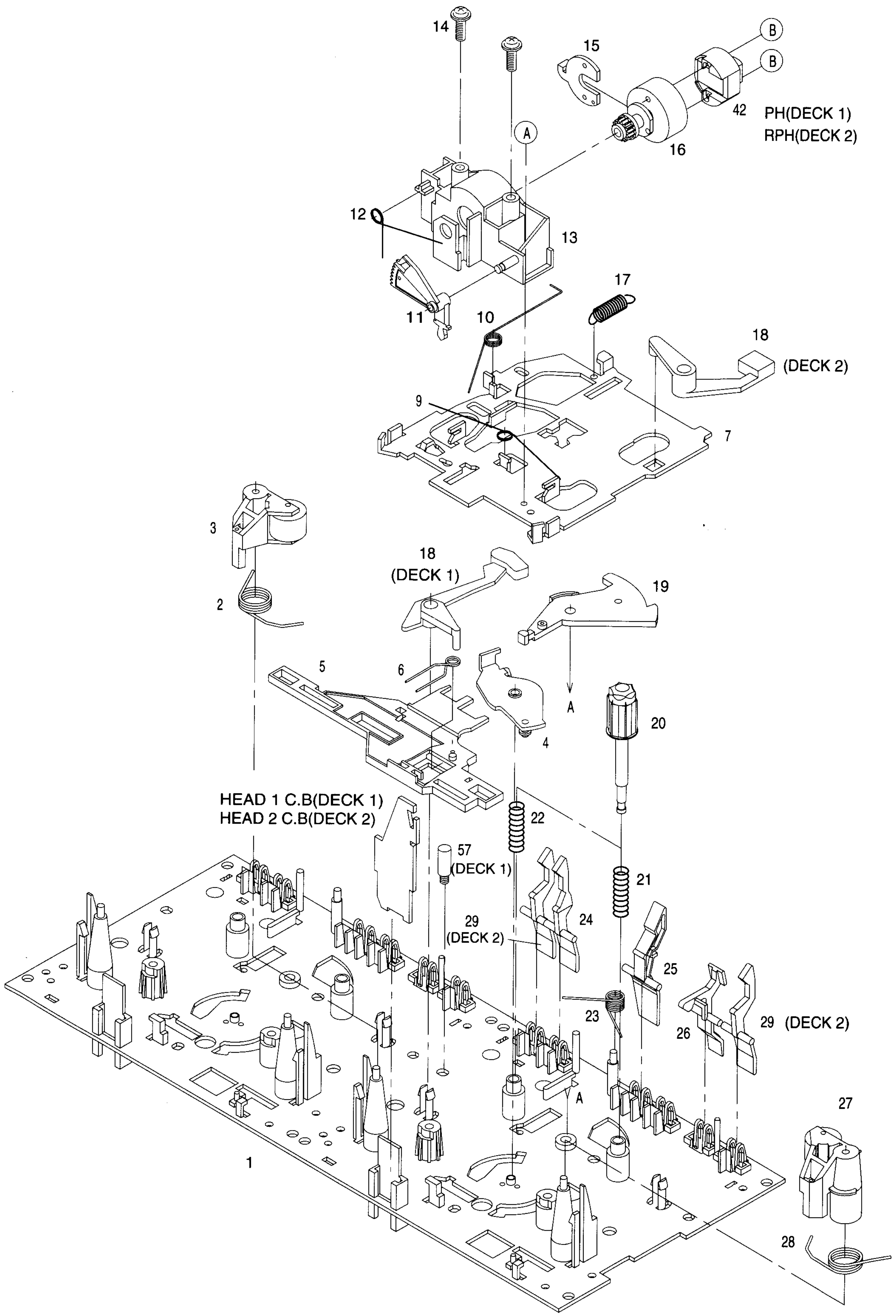
<LW SECTION>(EZ,K,V)

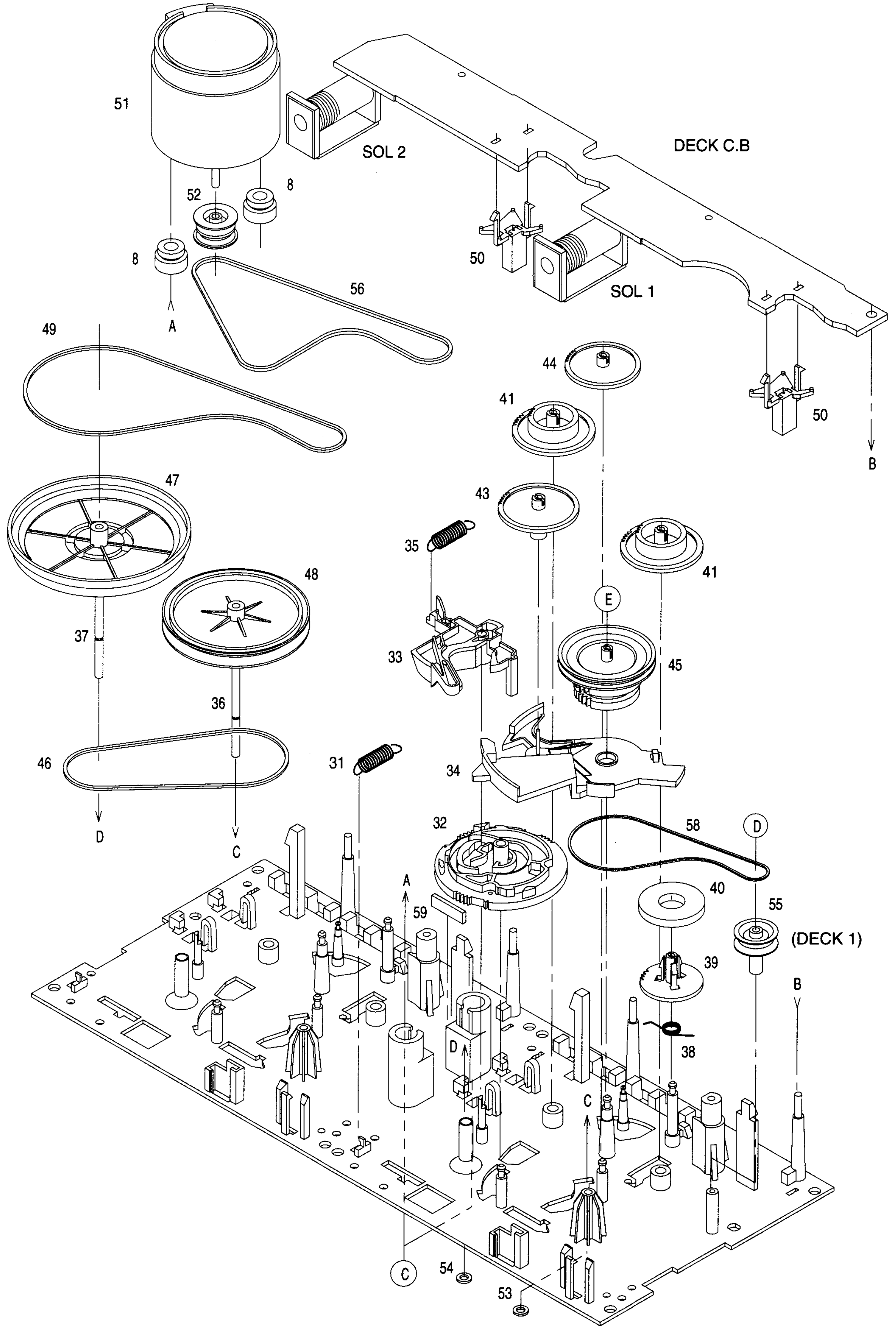
Sensitivity : 64dB ± 5dB [at 144kHz]
(S/N 20dB) 60dB ± 5dB [at 198kHz]
60dB ± 5dB [at 290kHz]
Signal to noise ratio : More than 30dB [at 198kHz]
Distortion : Less than 1.5% [at 198kHz]
Auto stop level : 66dB + 10/-15dB [at 198kHz]
Intermediate frequency : 450kHz

<DECK SECTION>

Tape speed : 3000Hz ± 45Hz
Wow & flutter : Less than 0.15%
(W.R.M.S)
Take-up torque : 45 + 10/-15g-cm
(FWD, REV)
F.F torque : 100 + 80/-25g-cm
REW torque : 100 + 30/-25g-cm
Back tension : 3 + 4/-1g-cm
(FWD, REV)
PB output level : 300mV± 1dB
(SP OUT 2V)
REC/PB output level : 150mV ± 1dB
(SP OUT 2V)
Distortion (REC/PB) : Less than 2.0%
(NORM, CrO_2)
Noise level (PB) : Less than 2.0mV
(NORM, SP OUT 2V, DOLBY OFF)
Less than 1.2mV
(CrO_2, SP OUT 2V, DOLBY ON B,C)
Noise level (REC/PB) : Less than 2.4mV
(NORM, SP OUT 2V, DOLBY OFF)
Less than 1.4mV
(CrO_2, SP OUT 2V, DOLBY ON B,C)
Crosstalk : More than 60dB
(1kHz, 0VU)
Channel separation : More than 35dB
(1kHz, 0VU)
Erasing ratio : More than 60dB
(at 125Hz, 10VU)
Test tape : TTA–602 (NORMAL)
TTA–615 (CrO_2)

TAPE MECHANISM EXPLODED VIEW 1 / 1



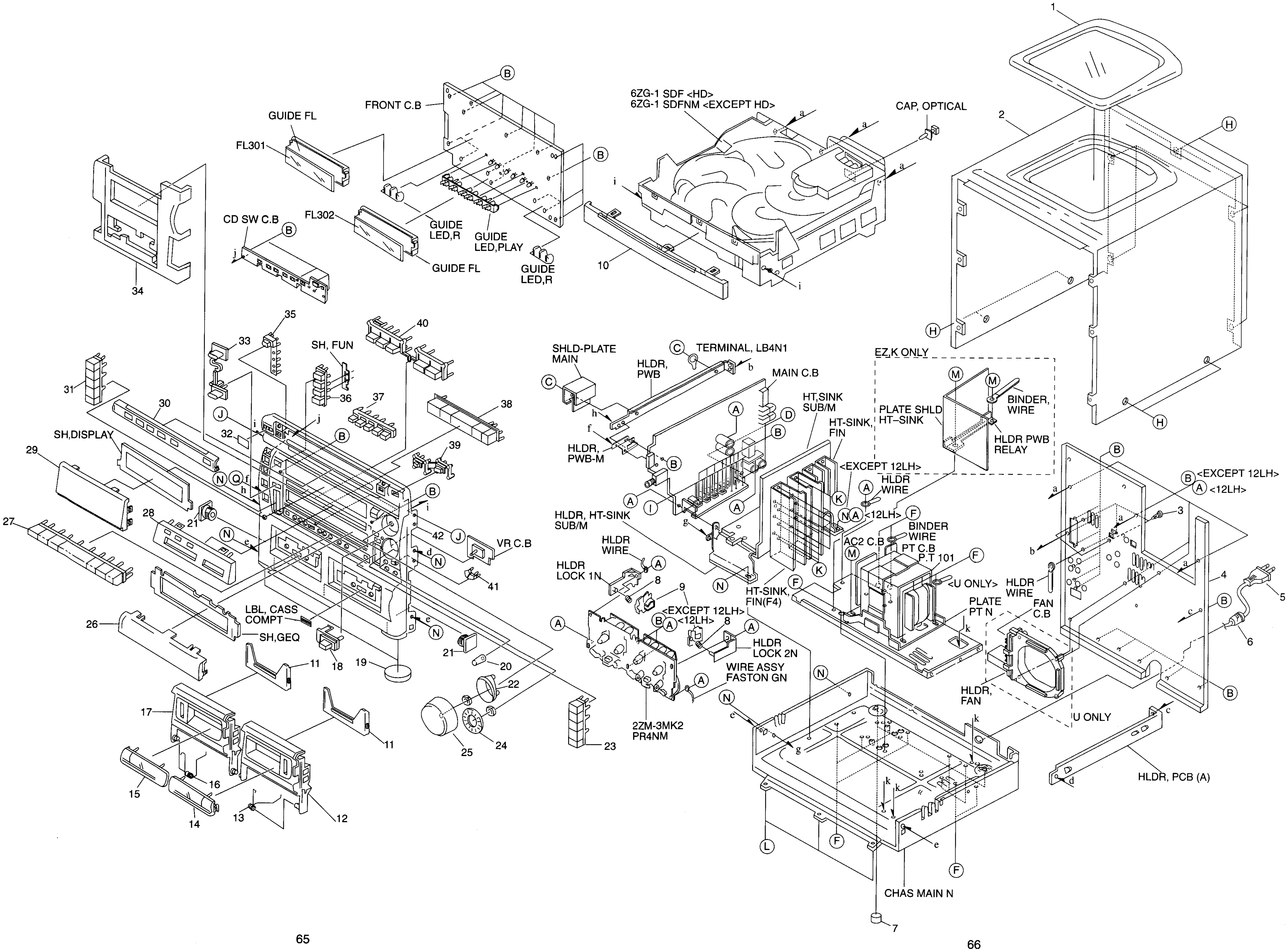


TAPE MECHANISM PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM3-301-519		CHAS ASSY,M2
2	82-ZM1-258-110		SPR-T,PINCH L
3	82-ZM1-341-110		LVR ASSY,PINCH L2
4	82-ZM1-333-010		PLATE,LINK 2
5	82-ZM1-266-11K		LVR,DIR
6	82-ZM1-214-010		SPR-T,DIR
7	82-ZM1-206-81K		CHAS,HEAD
8	82-ZM3-307-019		CUSH-G,DIA3.7-8-3.2
9	82-ZM1-269-219		SPR-T,BRG
10	82-ZM1-219-119		SPR-T,LINK
11	82-ZM1-210-119		GEAR,H T
12	82-ZM1-213-019		SPR-T,HEAD
13	82-ZM1-207-619		GUIDE,TAPE
14	86-ZM4-206-010		S-SCREW,AZIMUTH
15	82-ZM1-314-119		PLATE,HEAD
16	82-ZM1-208-119		HLDR,HEAD
17	82-ZM1-218-019		SPR-E,HB
18	82-ZM1-263-110		LVR,EJECT L (DECK 1)
18	82-ZM1-264-010		LVR,EJECT R (DECK 2)
19	82-ZM1-222-21K		LVR,PLAY
20	82-ZM1-217-319		REEL TABLE
21	82-ZM1-244-510		SPR-C,BT
22	82-ZM1-285-310		SPR-C,BT L
23	82-ZM1-257-019		SPR-T,CAS
24	82-ZM1-241-319		LVR,MC
25	82-ZM1-242-019		LVR,CAS
26	82-ZM1-243-019		LVR,STOP
27	82-ZM1-344-110		LVR ASSY,PINCH R2
28	82-ZM1-259-110		SPR-T,PINCH R
29	82-ZM1-240-11K		LVR,REC (DECK 2)
31	82-ZM1-255-319		SPR-E,LVR DIR
32	82-ZM3-305-01K		GEAR,CAM M2
33	82-ZM1-227-21K		LVR,TRIG
34	82-ZM3-306-11K		LVR,FR M2
35	82-ZM1-265-119		SPR-E,TRIG
36	82-ZM1-236-019		CAPSTAN N 2-41.5
37	82-ZM1-239-019		CAPSTAN N 2.2-41.7
38	82-ZM1-322-019		SPR-T,FR60
39	82-ZM1-220-219		GEAR,IDLER
40	82-ZM3-616-019		RING MAGNET 4
41	82-ZM1-216-31K		GEAR,REEL
42	87-A90-319-010		HEAD,PH HADKH2 FPC
42	87-A90-320-010		HEAD,RPH HADKH5 FPC
43	82-ZM1-225-21K		GEAR,FR
44	82-ZM1-226-019		GEAR,REW
45	82-ZM3-333-310		SLIP DISK ASSY 2
46	82-ZM1-338-010		BELT FR4
47	82-ZM1-349-110		FLY-WHL,R W(DECK 2)
47	82-ZM3-338-110		FLY-WHL,R3 W(DECK 1)
48	82-ZM1-348-010		FLY-WHL,L W(DECK 2)
48	82-ZM1-348-010		FLY-WHL,L W(DECK 1)
49	82-ZM3-329-210		BELT,SBU R2
50	82-ZM1-245-210		HLDR,IC
51	87-045-347-019		MOT,SHU2L 70(M1)
52	82-ZM3-221-010		PULLEY,MOT 2M
53	82-ZM1-288-019		SH,1.63-3.2-0.5 SLT
54	80-ZM6-243-019		SH,1.75-3.6-0.5 SLT
55	82-ZM3-335-210		PULLEY,COUPLER M3(DECK 1)
56	82-ZM3-337-010		BELT,SBU MOT 2
57	82-ZM3-339-010		SHAFT,COUPLER N3(DECK 1)
58	86-ZM1-206-010		BELT,MAIN L
59	82-ZM3-340-010		SH,BELT D2
A	85-ZM3-202-010		S-SCREW,TG
B	80-ZM6-207-019		V+1.6-7
C	82-ZM3-318-019		S-SCRW MOTOR M2
D	87-B10-043-010		W-P,0.99-4-0.25 SLT
E	82-ZM3-334-010		PW,2.16-6-0.4

MECHANICAL EXPLODED VIEW 1 / 1



FRONT C.B
GUIDE FL
FL301
FL302
CD SW C.B
GUIDE LED,R
GUIDE LED,PLAY
GUIDE FL
GUIDE LED,R
6ZG-1 SDF <HD>
6ZG-1 SDFNM <EXCEPT HD>
CAP, OPTICAL
SHLD-PLATE MAIN
TERMINAL, LB4N1
HLDR, PWB
MAIN C.B
HT,SINK SUB/M
HT-SINK, FIN
PLATE SHLD HT-SINK
EZ,K ONLY
BINDER, WIRE
HLDR PWB RELAY
HLDR, PWB-M
<EXCEPT 12LH>
HLDR WIRE
<12LH>
BINDER WIRE
AC2 C.B
PT C.B
P.T 101
<U ONLY>
HLDR WIRE
FAN C.B
PLATE PT N
HLDR, FAN
U ONLY
HLDR, HT-SINK SUB/M
HLDR WIRE
HLDR LOCK 1N
HT-SINK, FIN(F4)
<EXCEPT 12LH>
<12LH>
HLDR LOCK 2N
WIRE ASSY FASTON GN
2ZM-3MK2 PR4NM
CHAS MAIN N
HLDR, PCB (A)
<EXCEPT 12LH>
<12LH>
SH, FUN
SH,DISPLAY
VR C.B
LBL, CASS COMPT
SH,GEQ
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MECHANICAL PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

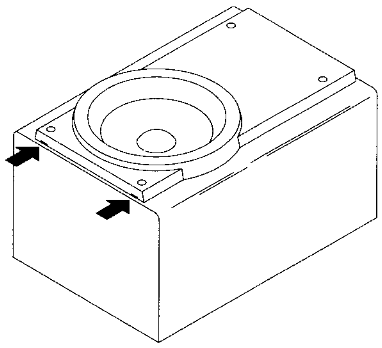
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-MAT-009-010		WINDOW,TOP(U)<U>
1	86-MA3-042-010		WINDOW,TOP<EXCEPT U>
2	86-NFW-014-010		CABI,STEEL<12LH,15LH>
2	86-NF9-076-010		CABI,STEEL<EXCEPT 12LH,15LH>
3	87-084-077-010		RIVET,NYL 3.5-4.5
4	86-NF9-085-110		PANEL,REAR UBN M99N<99U>
4	86-NF9-090-010		PANEL,REAR EZBNE N<EZ>
4	86-NF9-091-110		PANEL,REAR KBNE N<K>
4	86-NF9-086-110		PANEL,REAR UBNM 98N<98U>
4	86-NF9-084-110		PANEL,REAR LHBNM N<9LH>
4	86-NF9-083-110		PANEL,REAR HRJBNM N<HR>
4	86-NF9-087-110		PANEL,REAR VJBNM N<V>
4	86-NF9-088-010		PANEL,REAR HDB N<HD>
4	86-NF9-089-110		PANEL,REAR LHBNM 15N<15LH>
4	86-NF9-103-110		PANEL,REAR LH W/O SPEC<12LH>
⚠ 5	87-050-079-010		AC CORD ASSY,E BLK<EZ,LH,HR,V>
⚠ 5	87-050-097-010		AC CORD ASSY,H<HD>
⚠ 5	87-050-053-010		AC CORD ASSY,U-2<U>
⚠ 5	87-A80-059-010		AC CORD ASSY,K 3P(5A)<K>
6	87-085-185-010		BUSHING,AC CORD(E)<EXCEPT HD,U>
6	87-085-189-010		BUSHING,AC CORD(U) CM-22C<U>
6	87-085-184-010		BUSHING,AC CORD(D)CM22A<HD>
7	87-085-221-010		FOOT, H 13.5
8	82-NF5-228-010		SPR-C,LOCK<EXCEPT U>
8	86-NF9-224-010		SPR-C,LOCK<U>
9	82-NF5-229-010		PLATE,LOCK(*)
10	86-NF9-075-010		PANEL,TRAY ASSY E<U,EZ,K,V>
10	86-NF9-074-010		PANEL,TRAY ASSY<9LH,HR,HD>
10	86-NFW-009-010		PANEL,TRAY ASSY<12LH,15LH>
11	86-NF6-061-010		REFLECTOR,CASS
12	86-NF9-065-010		BOX,CASS 2E<U,EZ,K,V>
12	86-NF9-004-010		BOX,CASS 2<9LH,HR,HD>
12	86-NH9-004-010		BOX,CASS 2<12LH,15LH>
13	82-NF5-219-010		SPR-T,EJECT 2(SIN)
14	86-NF9-014-010		WINDOW,CASS 2
15	86-NF9-013-010		WINDOW,CASS 1
16	82-NF5-218-010		SPR-T,EJECT 1(SIN)
17	86-NF9-064-010		BOX,CASS 1E<U,EZ,K,V>
17	86-NF9-003-010		BOX,CASS 1<9LH,HR,HD>
17	86-NH9-003-010		BOX,CASS 1<12LH,15LH>
18	86-NF9-038-010		KEY,DSP OFF
19	86-NF9-034-010		RING,FOOT
20	86-NT1-023-010		KNOB,RTRY MIC
21	87-063-165-010		OIL-DMPR,150
22	86-NF9-032-010		RING,VOL
23	86-NF9-026-010		KEY,DSP
24	86-NF9-033-010		KNOB,RTRY JOG<EXCEPT 12LH,15LH>
24	86-NH9-013-010		KNOB,RTRY JOG<12LH,15LH>
25	86-NF9-031-010		KNOB,RTRY VOL<EXCEPT 12LH,15LH>
25	86-NH9-012-010		KNOB,RTRY VOL<12LH,15LH>
26	86-NF9-012-010		WINDOW,GEQ
27	86-NF9-041-010		KEY,RDS<EZ>
27	86-NF9-030-010		KEY,BBE<EXCEPT EZ>
28	86-NF9-008-010		PANEL,CONTROL
29	86-NF9-067-010		WINDOW,DISPLAY RDS<EZ>
29	86-NF9-011-010		WINDOW,DISPLAY<EXCEPT EZ>
30	86-NF9-010-010		WINDOW,CD
31	86-NF9-025-010		KEY,GEQ
32	82-NE6-067-010		BADGE,AIWA 30N
33	86-NF9-037-010		KEY,GEQ OFF
34	86-NF9-007-110		PANEL,FR
35	86-NF9-042-010		KEY,ASSY POWER
36	86-NF9-024-010		KEY,FUN<EXCEPT 12LH,15LH>
36	86-NH9-009-010		KEY,FUN<12LH,15LH>
37	86-NF9-016-110		KEY,ASSY DISC
38	86-NF9-043-110		KEY,ASSY PLAY
39	86-NF9-015-010		KEY,OPEN<EXCEPT 12LH,15LH>
39	86-NH9-008-010		KEY,OPEN<12LH,15LH>
40	86-NF9-039-110		KEY,REC
41	86-NF9-029-010		KEY,MEMORY<EXCEPT 12LH,15LH>
41	86-NH9-017-010		KEY,MEMORY<12LH,15LH>
42	86-NF9-062-210		CABI,FR E<EZ,K,V>
42	86-NF9-073-210		CABI,FR U 98<98U>
42	86-NF9-061-210		CABI,FR U<99U>
42	86-NF9-001-210		CABI,FR<9LH,HR,HD>
42	86-NF9-078-010		CABI,FR H ST15<15LH>
42	86-NF9-077-010		CABI,FR H ST12<12LH>
A	87-067-579-010		BVT2+3-8 W/O SLOT
B	87-067-703-010		BVT2+3-10 W/O SLOT
C	87-741-094-410		UT2+3-6 W/P SLOT
D	87-NF4-224-010		S-SCREW,IT3B+3-8CU
F	87-067-975-010		S-SCREW,IT+4-8 SWCH12A
H	87-067-641-010		UTT2+3-8 W/O SLOT BLK
I	87-067-581-010		BVT2+3-15 W/O SLOT
J	87-721-097-410		QT2+3-12 W/O SLOT
K	87-B10-090-010		BVIT3B+3-12 GOLD
L	87-067-673-010		BVTT+3-8 BLK
M	87-078-191-010		S-SCREW,IT+4-10
N	87-591-095-410		QIT+3-8
P	87-067-584-010		BVT2+3-6 W/O SLOT
Q	87-723-096-410		QT2+3-10 BLK

SPEAKER DISASSEMBLY INSTRUCTIONS

Type.1

矢印の位置にマイナスドライバーを差し込んで、パネルを外します。各々のスピーカーユニットのビスを取り、スピーカーユニットを外してください。

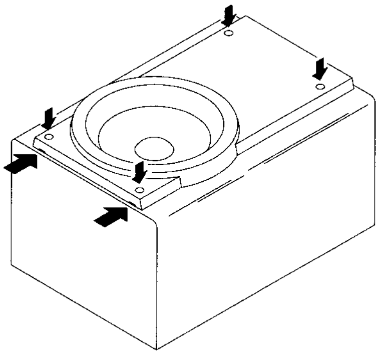
Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. remove the screws of each speaker unit and then remove the speaker units.



Type.2

グリルフレームを外し、4個のゴムキャップをマイナスドライバーで端の方から持ち上げて外すと中にビスが有りますので、ビスを取り外します。矢印の位置にマイナスドライバーを差し込んで、パネルを外します。各々のスピーカーユニットのビスを取り、スピーカーユニットを外してください。

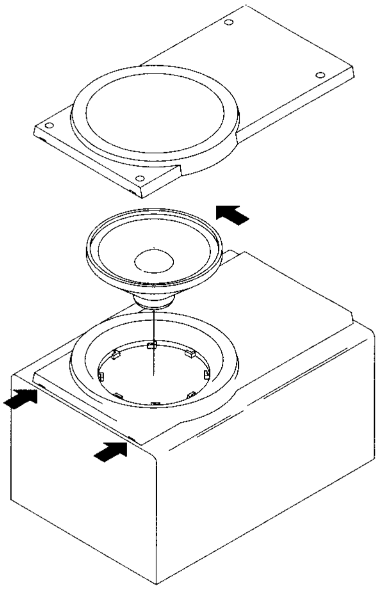
Remove the grill frame and four pieces fo rubber caps by pulling out with a flat-bladed screwdriver. Remove the screws from hole where installed rubber caps. Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



Type.3

矢印の位置にマイナスドライバーを差し込んで、パネルを外します。各々のスピーカーユニットの凹にマイナスドライバーを差し込んで、反時計方向に回転させスピーカーユニットを外してください。スピーカーユニット交換後は時計方向にクリック音がするまで、回転させて取り付けます。

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Turn the speaker unit to counterclockwise direction while inserting a flat-bladed screwdriver into one of the hollows around speaker unit, and then remove the speaker unit. After replacing the speaker unit, install it turning to clockwise direction until "click" sound comes out.



SX-NAVF9 <Y,YJ,YL,YJ7>
SX-SNAVF9 <Y>
SX-NAVF99 <YU>
SX-SNAVF12 <YL>
SPEAKER PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-NSW-001-010		PANEL,FR R<9(YJB,YLB,YJ7B,YB),99YUB>
1	86-NSW-017-010		PANEL,FR R ST<9(YJST,YLST,YJ7ST,YST),99YUST>
2	86-NSW-002-010		PANEL,FR L<9(YJB,YLB,YJ7B,YB),99YUB>
2	86-NSW-018-010		PANEL,FR L ST<9(YJST,YLST,YJ7ST,YST),99YUST>
3	86-NSW-019-010		PANEL, FR R ASSY<12YL>
4	86-NSW-020-010		PANEL, FR L ASSY<12YL>
5	86-NSW-008-010		GRILLE,FRAME ASSY
6	86-NSW-602-010		SPKR,W<EXCEPT 12YL>
7	86-NSW-604-010		SPKR,TW<EXCEPT 12YL>
8	86-NSW-606-010		SPKR,W 160 ASSY<12YL>
9	83-096-614-010		SPEAKER CODE

SX-FNF98 <YUBNC>
SPEAKER PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

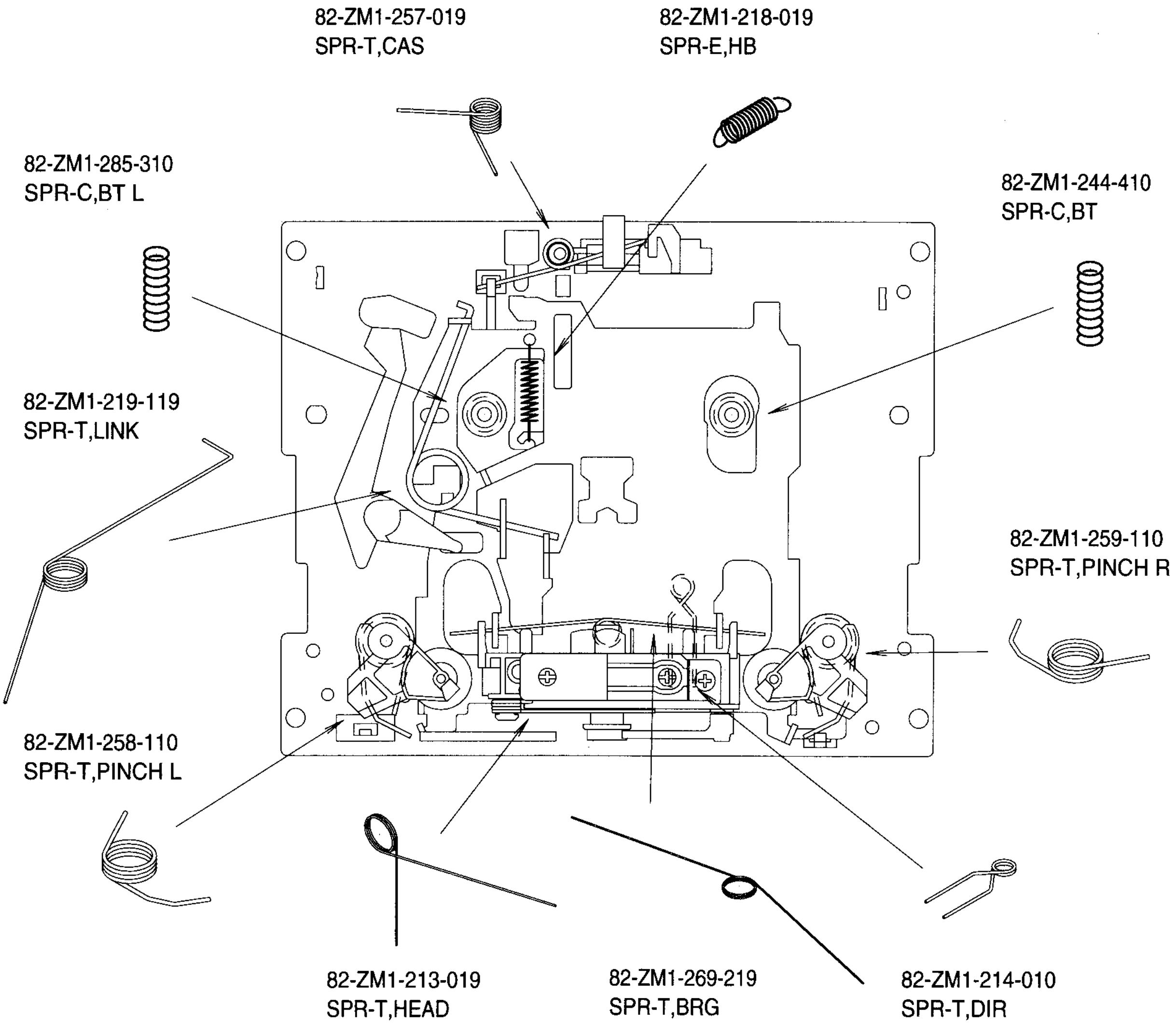
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-NS9-602-010		SPKR,W 160
2	86-NS9-604-010		SPKR,T 80
3	86-NS5-606-010		SPKR,80
4	86-NSA-003-010		GRILLE,FRAME ASSY
5	86-NSA-001-010		PANEL,FR
6	86-NSA-007-010		PANEL,TW
7	86-NSA-008-010		HLDR,SQ

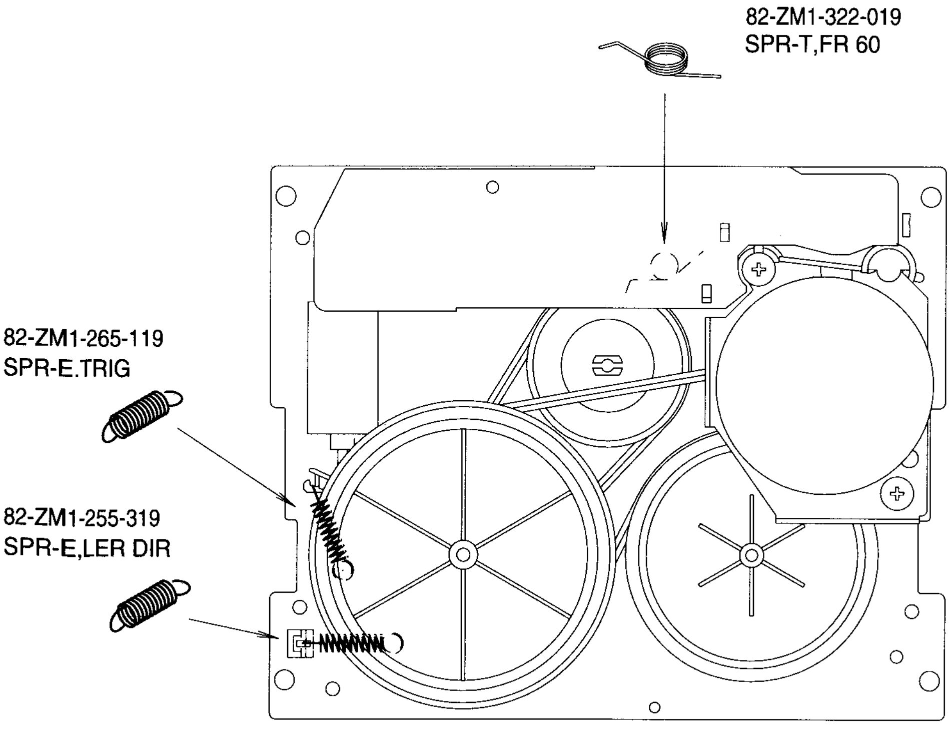
SX-R280 <Y, YJ, YJ7>
SPEAKER PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-YS1-004-010		GRILLE,FRAME ASSY
2	81-VSA-010-010		SPKR,CORD
3	85-NSL-601-010		SPKR,100

SPRING APPLICATION POSITION


82-ZM1-257-019
SPR-T,CAS
82-ZM1-218-019
SPR-E,HB
82-ZM1-285-310
SPR-C,BT L
82-ZM1-244-410
SPR-C,BT
82-ZM1-219-119
SPR-T,LINK
82-ZM1-259-110
SPR-T,PINCH R
82-ZM1-258-110
SPR-T,PINCH L
82-ZM1-213-019
SPR-T,HEAD
82-ZM1-269-219
SPR-T,BRG
82-ZM1-214-010
SPR-T,DIR


82-ZM1-322-019
SPR-T,FR 60
82-ZM1-265-119
SPR-E.TRIG
82-ZM1-255-319
SPR-E,LER DIR

ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-NF9-913-010		IB,UA(ESF)M-98<98U>
1	86-NF9-912-010		IB,UA(ESF)M99<99U>
1	86-NF9-914-010		IB,KA(E) E<K>
1	86-NF9-915-010		IB,EA(EGFSI) E<EZ>
1	86-NF9-917-010		IB,LH(BR)-F12<12LH>
1	86-NF9-910-110		IB,LHA(ESP)M<9LH,15LH>
1	86-NF9-911-010		IB,HA(ECA)M<HR,HD>
1	86-NF9-916-010		IB,VA-M<V>
2	86-MA3-703-010		RC UNIT,6AS01
3	87-043-115-010		FEEDER-ANT,FM<EXCEPT EZ,K>
4	87-006-225-010		ANT,LOOP ANT NC2<EXCEPT HR>
5	87-043-106-010		ANT,FM 1007 AWG<EZ,K>
⚠ 6	87-A90-312-010		PLUG,CONVERSION WTN-1157R1<9(LH,HR),15LH>
⚠ 6	87-009-724-010		PLUG,ADPTR<HD>
7	87-A90-054-010		ANT,LOOP AM-CON C<HR>
8	87-043-095-010		ANT,WIRE<HR>

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
G–　　–	
G–　　–	
G–　　–	

9301978, 750038

アイワ株式会社
AIWA CO.,LTD.

Tokyo Jap

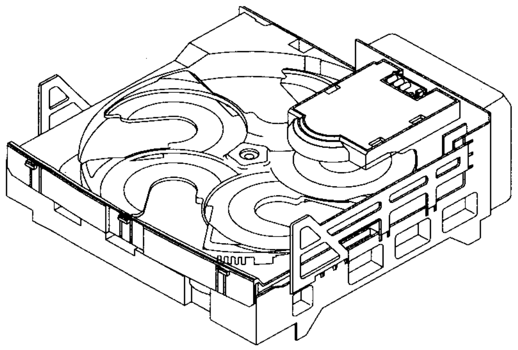
〒110　東京都台東区池之端1−2−11　☎03（3827）3111　（代表）

Printed in Singapor

aiwa

aiwa
SERVICE

6ZG-1
6ZG-1S
6ZG-1S1
6ZG-1VZ



CD MECHANISM

SERVICE MANUAL

- BASIC CD MECHANISM: 3ZG-2 C4N/C6N
- TYPE: English,Japanese

BASIC NAME		DERIVATION NAME					
6ZG-1	*1	D	F	–	–	–	–
	*2	D	F	G	–	V1	V2
	*3	D	F	–	P	V1	–
6ZG-1S		D	F	–	–	–	–
6ZG-1S1		D	F	–	–	–	–
6ZG-1VZ		D	F	–	–	–	–

- ■ This mechanism has various derivation. Derivation name is indicated by the Service Manual for eath model.
- ■ 本体マニュアルはBASIC CD MECHANISMのサフィックがDERIVATION NAMEです。組み合わせて使用して下さい。

S/M Code No. 09-975-198-00T

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製品を安全に修理(補修)するために

修理の前に「製品を安全に修理(補修)するために」をよくお読みの上、正しく修理を行ってください。このサービスマニュアルでは、お客様が製品を安全に正しくお使いいただき、お客様や他の人々への危害や財産への損害を未然に防止するために、修理する場合必ず下記の項目をお守りください。

⚠注意

この表示を無視して、誤った取り扱いをすると、人が傷害を負ったり物的損害が発生する可能性があります。

1.注意事項を守ること。
サービスの時、特に注意を要する箇所については、キャビネット、シャーシ、部品などにラベルや捺印で注意事項を表示しています。これらの注意書きおよび取扱説明書等の注意事項を必ずお守りください。

2.スペック銘板・注意ラベル・ヒューズラベル等の表示文字を汚して読みにくくしないこと。

3.基板パターンの裏付け部品の修理等を行う場合、パターンや部品にボンド(KE-3490)を塗布してプリント基板にしっかり固定すること。

4.サービス後は安全点検すること。
サービスのために取り外したネジ、部品、配線がもとどおりになっているか、サービスした個所の周辺で劣化させてしまったところがないかなどを点検してください。(ワイヤー半田付け、引き回し、束線、種類、空間距離)

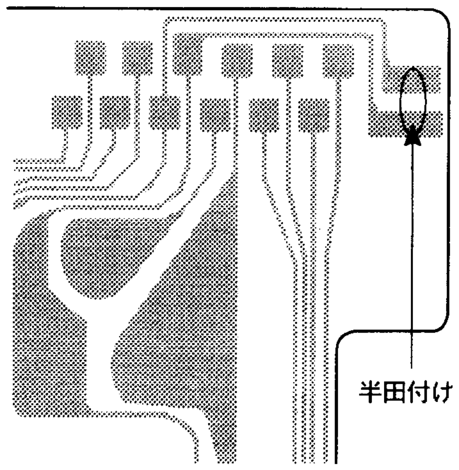
5.修理(補修)時に、レーザー出力部に接近しないこと。
やむなく接近する場合は、目を閉じてください。レーザービームに接近することが必要になった場合、光学ピックアップブロックの対物レンズの表面から30cm以上離れていることを確認してください。

光学ブロック (KSS-213B) 交換時の注意

光学系ブロック内のレーザーダイオードは、衣服や人体に帯電した静電荷等で電位差を生じることにより、静電破壊することがあります。人体アース、作業台のアースをとり、衣服が触れぬよう注意して下さい。

1) コネクターを接続後、右図に示すハンダ付けを取り除いて下さい。

PICK-UP Assy P.C.B



PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

- ■ Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- ■ Advarsel: Usynling laserstäling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!

Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

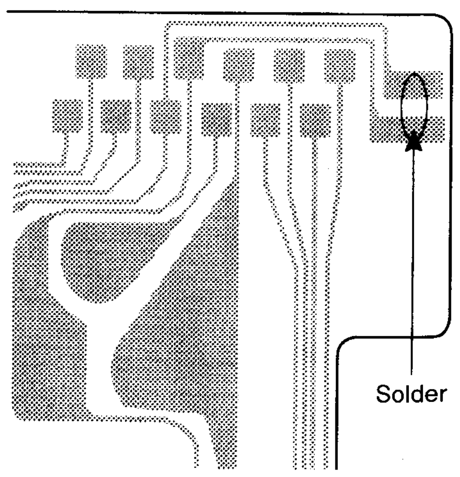
CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

Precaution to replace Optical block (KSS-213B)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the right figure.

PICK-UP Assy P.C.B



本体のマニュアルのBASIC CD MECHANISMのサフィックスがDERIVATION NAMEです。本サービスマニュアルは、DERIVATION NAMEを組み合わせて使用して下さい。

BASIC CD MECHANISM: 6ZG-1 DF
SUFFIX
(DERIVATION NAME)

BASIC NAME: 6ZG-1 (ORIGINAL MODEL)
6ZG-1S (SONY IC HIGH END MODEL)
6ZG-1S1 (SONY IC LOW END MODEL)
6ZG-1VZ (SANYO IC MODEL)

BASIC NAME		DERIVATION NAME					
6ZG-1	*1	D	F	—	—	—	—
	*2	D	F	G	—	V1	V2
	*3	D	F	—	P	V1	—
6ZG-1S		D	F	—	—	—	—
6ZG-1S1		D	F	—	—	—	—
6ZG-1VZ		D	F	—	—	—	—

NOTE: ・*1、*2、*3は、BASIC NAMEは同じですが、基板構成が異なります。

BASIC NAME \ BOARD NAME		CD MAIN	LED C.B	T-T C.B	CD MOTOR C.B	VCD MAIN C.B	VIDEO SW C.B
6ZG-1	*1	○	○	○	○	—	—
	*2	—	○	○	○	○	○
	*3	—	○	○	○	○	—
6ZG-1S/S1		○	○	○	○	—	—
6ZG-1VZ		—	○	○	○	○	○

NOTE: ・*2と*3は、使用している基板が異なります。本マニュアルでは*2を「V1」「V2」、*3を「V1P」と表記します。

DERIVATION NAME

G: Supporting the CD graphic feature
D: Digital output function
F: CD WINDOW Flash function (LED: AMBER/GREEN)
P: Audio out pin jack type
V1: Supporting the video CD function
V2: Supporting the video CD function

This is the SERVICE MANUAL for the BASIC CD MECHANISM of BASIC NAME: 6ZG-1. This BASIC NAME includes the following models as shown under the SUFFIX name: DERIVATION NAME. Please use this manual with the separate SERVICE MANUAL for DERIVATION NAME.

BASIC CD MECHANISM: 6ZG-1 DF
SUFFIX
(DERIVATION NAME)

BASIC NAME: 6ZG-1 (ORIGINAL MODEL)
6ZG-1S (SONY IC HIGH END MODEL)
6ZG-1S1 (SONY IC LOW END MODEL)
6ZG-1VZ (SANYO IC MODEL)

BASIC NAME		DERIVATION NAME					
6ZG-1	*1	D	F	—	—	—	—
	*2	D	F	G	—	V1	V2
	*3	D	F	—	P	V1	—
6ZG-1S		D	F	—	—	—	—
6ZG-1S1		D	F	—	—	—	—
6ZG-1VZ		D	F	—	—	—	—

NOTE: • *1 and *2, *3 have the same BASIC NAME but the board structures are different.

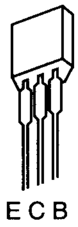
BASIC NAME \ BOARD NAME		CD MAIN	LED C.B	T-T C.B	CD MOTOR C.B	VCD MAIN C.B	VIDEO SW C.B
6ZG-1	*1	○	○	○	○	—	—
	*2	—	○	○	○	○	○
	*3	—	○	○	○	○	—
6ZG-1S/S1		○	○	○	○	—	—
6ZG-1VZ		—	○	○	○	○	○

NOTE: • The boards having the asterisk mark *2 and *3 use the different boards.
These circuit boards are identified the *2 boards as "V1", "V2" while the *3 board as "V1P" in this manual.

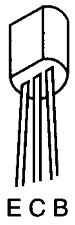
DERIVATION NAME

G: Supporting the CD graphic feature
D: Digital output function
F: CD WINDOW Flash function (LED: AMBER/GREEN)
P: Audio out pin jack type
V1: Supporting the video CD function
V2: Supporting the video CD function

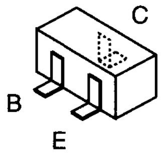
TRANSISTOR ILLUSTRATION



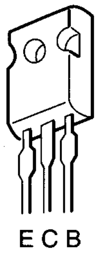
2SA933S



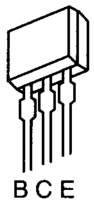
2SA1015
2SC1815
2SC2001
2SD2172
2SD655
CSD655



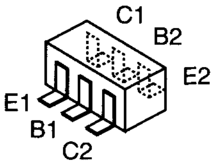
2SA1037 S
2SA1162
2SA1362
2SC2712
2SC3326
DTA114TK
DTA123JK
DTA144EK
DTC114EK
DTC114TK
DTC124XK
DTC143TK



2SA1357



2SB1329


C1
B2
E2
E1
B1
C2

HN1A01F
HN1C01F
HN1C03FB

DISASSEMBLY INSTRUCTIONS

1. ピックアップの交換方法

1) TRAYをオープンさせる。
   stopperを矢印の方向へ押し、SHAFT SLED半分だけ抜く。
2) GEAR MAIN CAMを反時計方向(“a” の方向) に回し、Fig-1のようにCDメカを持ち上げる。
3) SHAFT SLEDを抜く。
4) CDメカを下げてPICK UPを交換する。
5) CDメカをFig-1のように上げて、SHAFT SLEDを取り付ける。

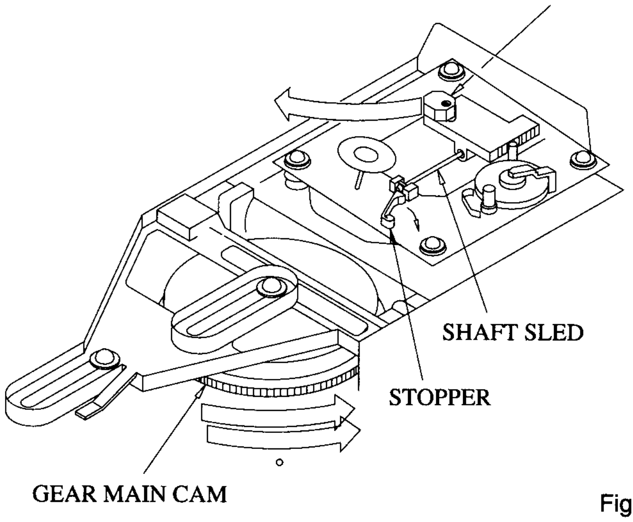

PICKUP
SHAFT SLED
STOPPER
GEAR MAIN CAM

Fig-1

2. 5巻チェンジャーブロックの外し方 (Fig-2)

1) CD基板のFFC 2 本を外し、ビス5本を外す。
2) 5巻チェンジャーブロックを後から持ち上げて外す。(PANEL TRAYを外さなくても、5チェンジャーブロックを後から外すことができる。)

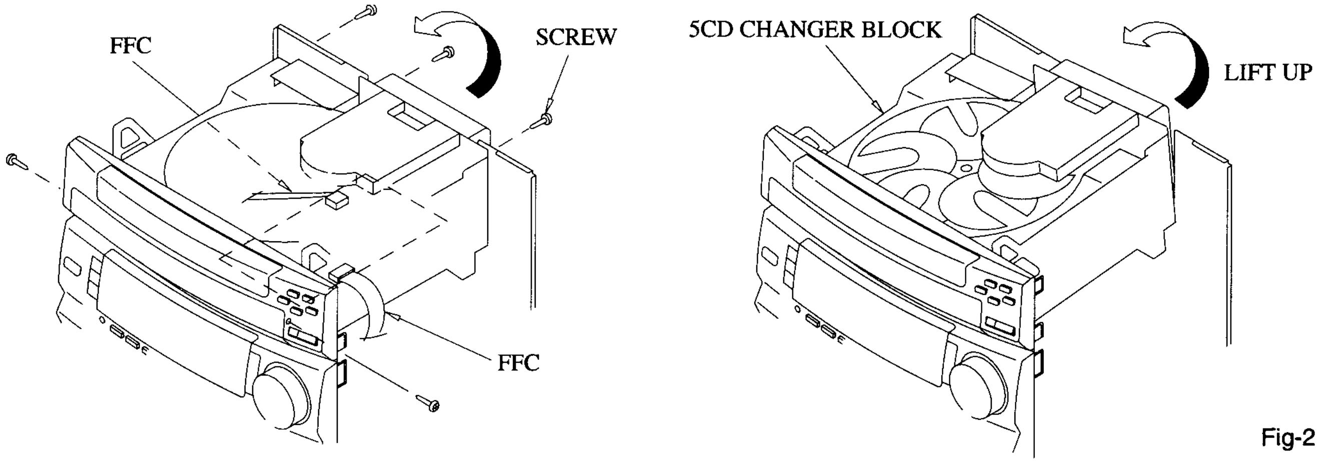

FFC
SCREW
FFC
5CD CHANGER BLOCK
LIFT UP

Fig-2

3. TRAYの分解　組立て方法

3-1. 分解方法

1) CHAS MECHA (部のPLATE GEARのボスを外側 (矢印 “b” 方向) に強く押す。(Fig-3)
   (TRAYが少しせり出すのを確認する)
2) TRAYをオープン位置まで引き出す。
3) FFC を抜き、両サイドのCHAS MECHツメ (2ケ所) を押してTRAYを外す。(Fig-4)

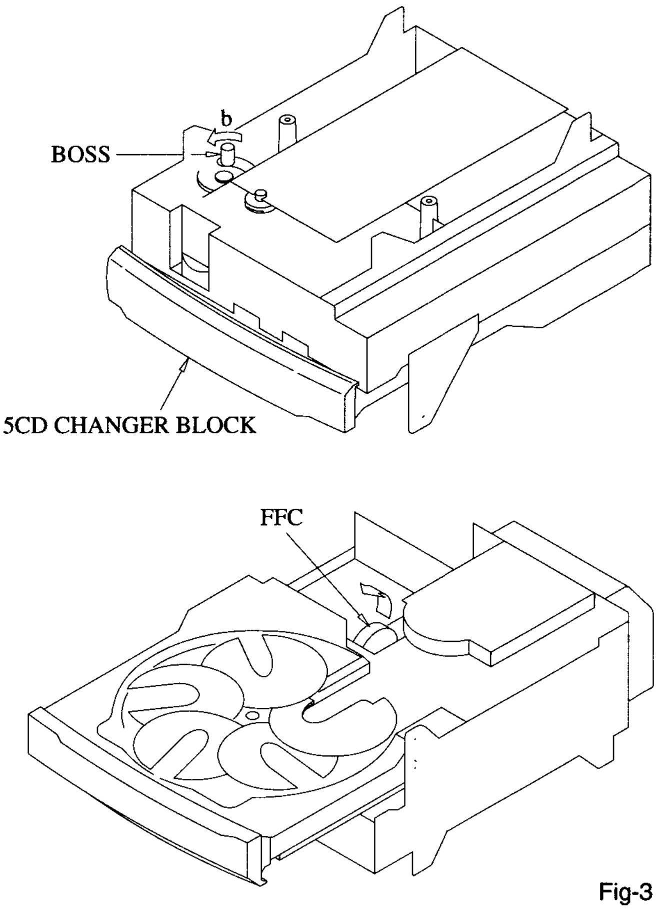

b
BOSS
5CD CHANGER BLOCK
FFC

Fig-3

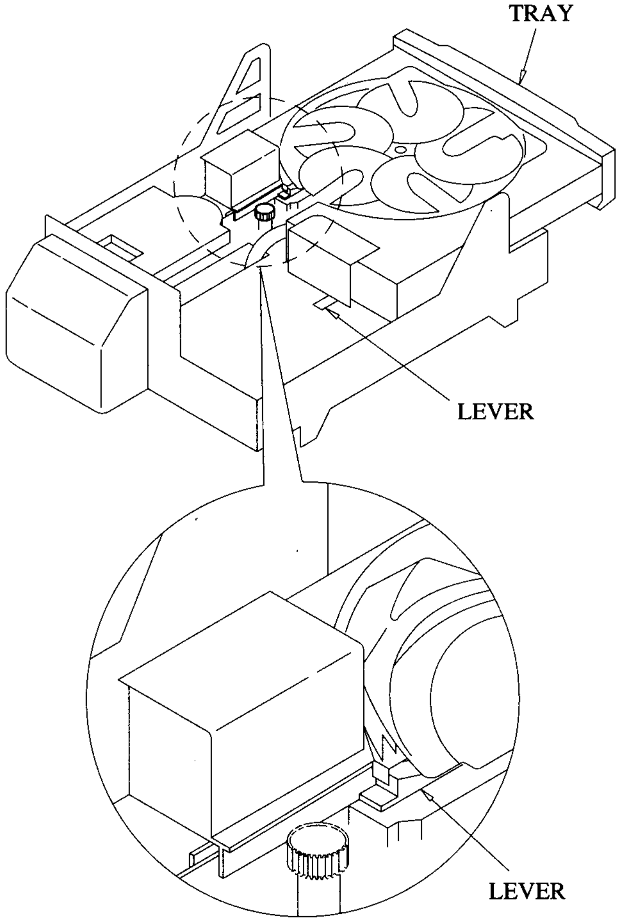

TRAY
LEVER
LEVER

Fig-4

3-2. 組立て方法

1) LEVER TRAYがFig-5の位置で、CDメカが下がっていることを確認する。
2) TRAY をCHAS MECHAのレールに沿って 組み込む。
3) 半分までTRAYを組み込んだらFFCを差し、TRAYを最後まで押し入れる。(Fig-6)

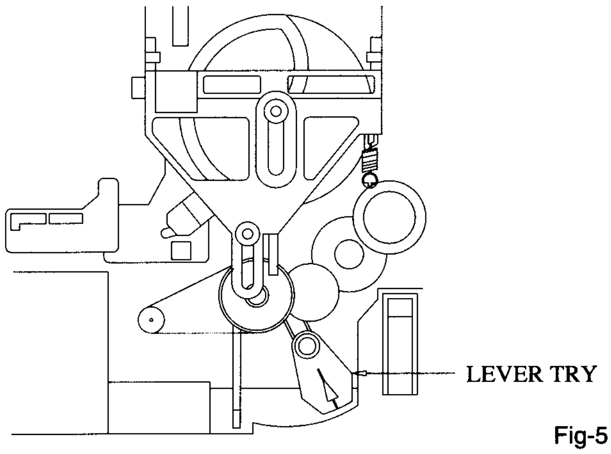


Fig-5

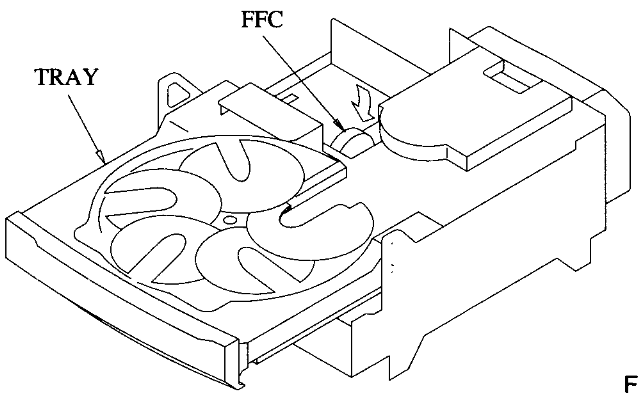


Fig-6

4. ターンテーブルの組立方法 (Fig-7)

1) LEVER TTを“C”の方向に押しながら、TURN TABLE 5CDを組み込む。(Fig-7)
この時、TRAY 5CDとTURN TABLE 5CDの切り欠きが同じ方向になるようにする。(Fig-8)

＊ 組み込む際のTURN TABLE 5CDのCD番号 (1～5) は任意で構いません。(Fig-7)

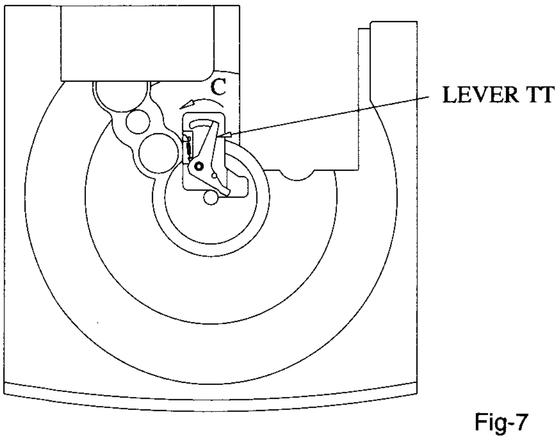


Fig-7

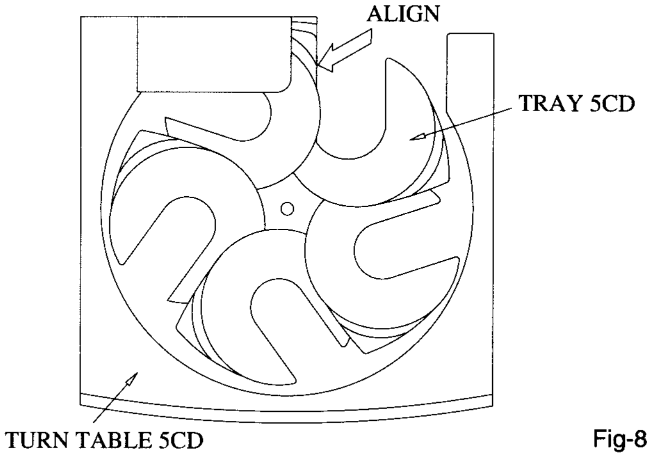
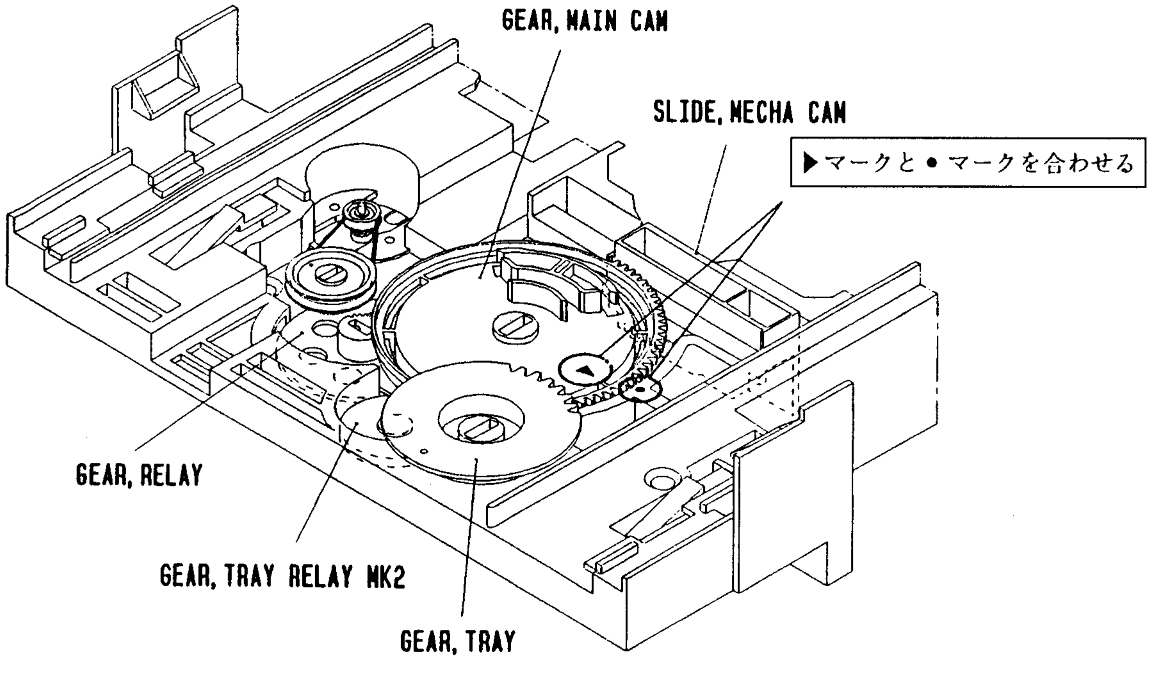

ALIGN
TRAY 5CD
TURN TABLE 5CD

Fig-8

ギヤ、メインカムの位相の合わせ方

1) CHAS, MECHのツメを下側に押し、TRAYを外す。
2) 下図の様にGEAR, MAIN CAMの矢印とCHAS, MECHAの点印を合わせる。
3) SLIDE, MECH CAMが右側の位置にある事を確認し、TRAYをゆっくり挿し込んで下さい。

注意: GEAR, MAIN CAMの位相がズレている場合、チャッキング及びトレーが誤動作を起こします。


GEAR, MAIN CAM
SLIDE, MECHA CAM
▶マークと●マークを合わせる
GEAR, RELAY
GEAR, TRAY RELAY MK2
GEAR, TRAY

DISASSEMBLY INSTRUCTIONS

1. How to replace PICK UP.

1) Open the TRAY.
   Push the stopper to arrow direction and release half of the SHAFT SLED.
2) Turn GEAR MAIN CAM to the counterclockwise (arrow "a") direction, and lift up CD mechanism. (Fig-1)
3) Remove SHAFT SLED.
4) CD mechanism in down position, replace PICK UP.
5) Lift up CD mechanism (Fig-1), and Reassemble the SHAFT SLED.

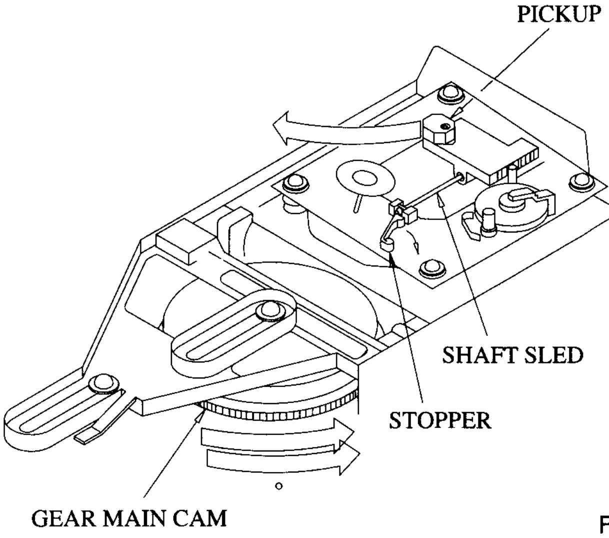

PICKUP
SHAFT SLED
STOPPER
GEAR MAIN CAM

Fig-1

2. How to remove the 5CD CHANGER BLOCK (Fig-2)

1) Remove the two FFC of the CD circuit board, and remove the five SCREWS.
2) Lift 5 CD CHANGER BLOCK from behind, and remove it. (5CD CHANGER BLOCK can be removed even if PANEL TRAY is not removed.)

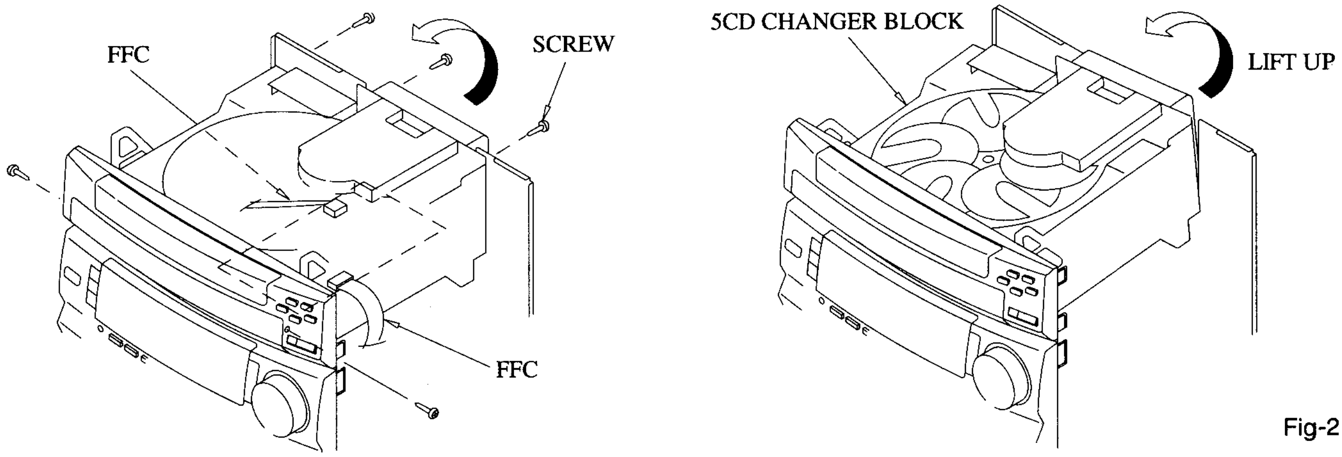

FFC
SCREW
FFC
5CD CHANGER BLOCK
LIFT UP

Fig-2

3. The disassemble and reassemble the TRAY

3-1. Disassembling procedure.

1) Push the PLATE GEAR'S Boss at the bottom part of CHAS MECHA strongly to the outside (arrow "b" direction). (Fig-3)
   (Confirm that TRAY appears a little in the front.)
2) Draw TRAY to the open position.
3) Remove FFC, and push the two LEVERS at both side of the CHAS MECH to remove TRAY. (Fig-4)

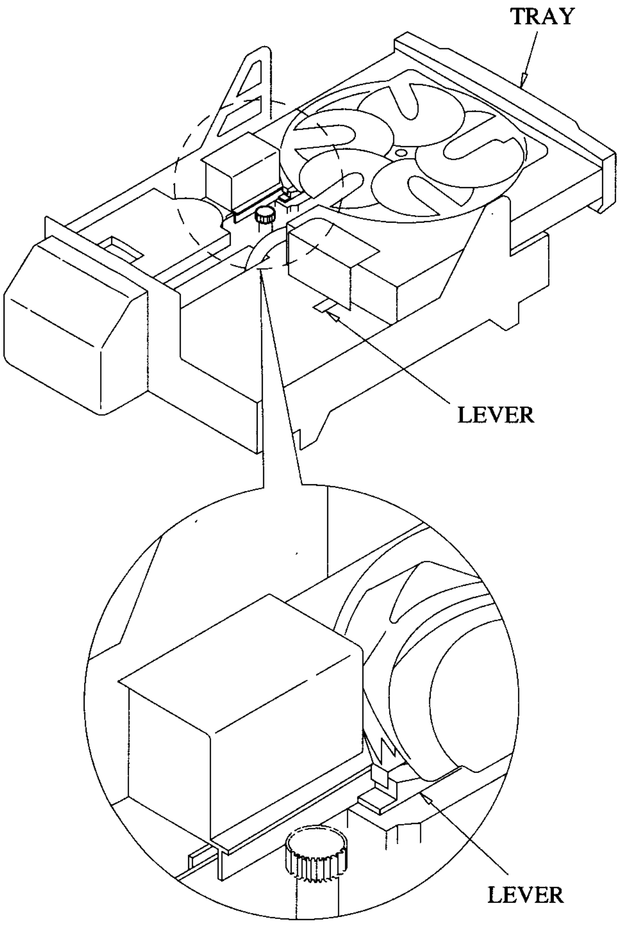


Fig-4

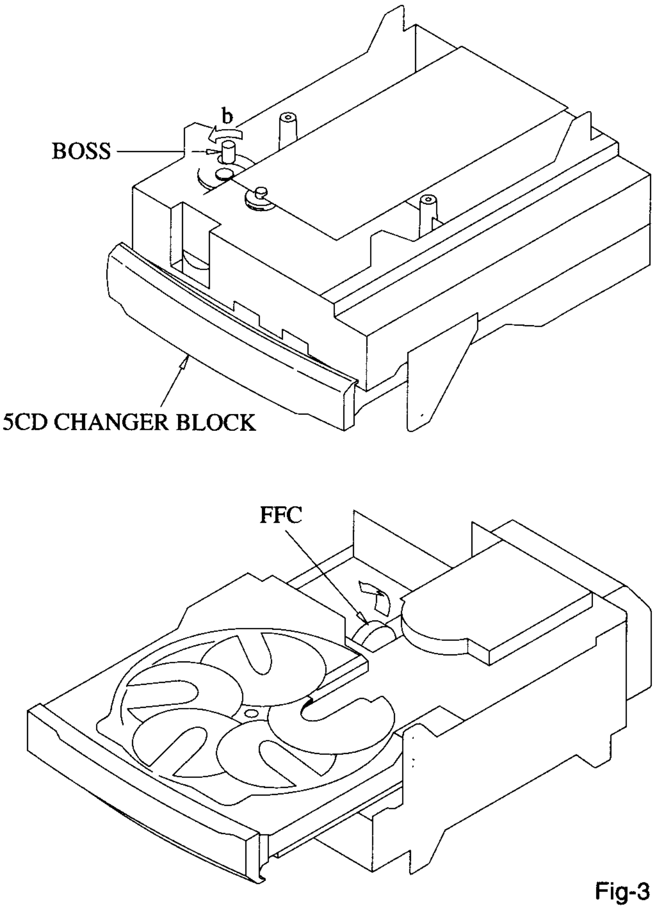


Fig-3

3-2. Reassembling procedure.

1) Confirm that LEVER TRAY is at the most right position and check for the CD Mechanism to be in the down position. (Fig-5)
2) Push in the TRAY along the rail of the CHAS MECHA.
3) After TRAY is half closed and FFC is put in, it can enter by force until the end of TRAY closed. (Fig-6)

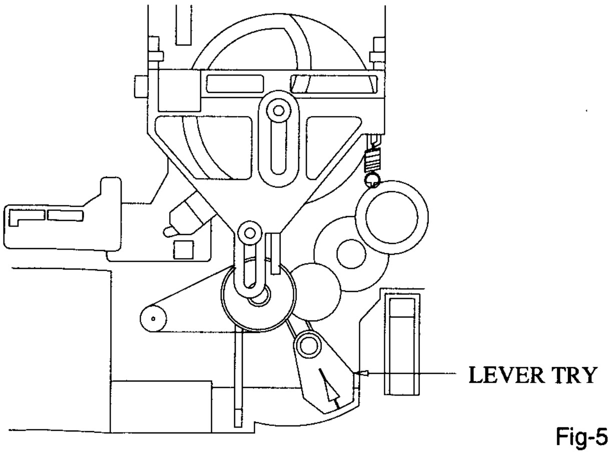


Fig-5

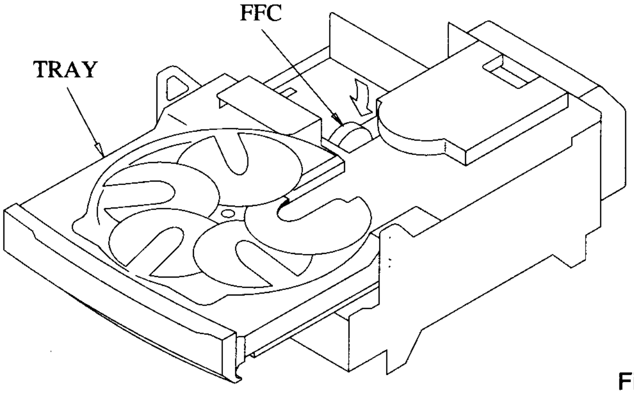


Fig-6

4. How to reassemble the TURN TABLE. (Fig-7)

1) Push LEVER TT in the direction of "C", and put in the TURN TABLE 5CD. (Fig-7)
   After reassembly, one of the TURN TABLE DISC TRAY (can be either one of the five disc trays) must be aligned with TURN TABLE 5CD. (Fig-8)
   That is, having no gap difference between the TURN TABLE 5CD and the TRAY 5CD.

* When reassembling the TURN TABLE 5CD, it is acceptable facing any CD number (1-5).

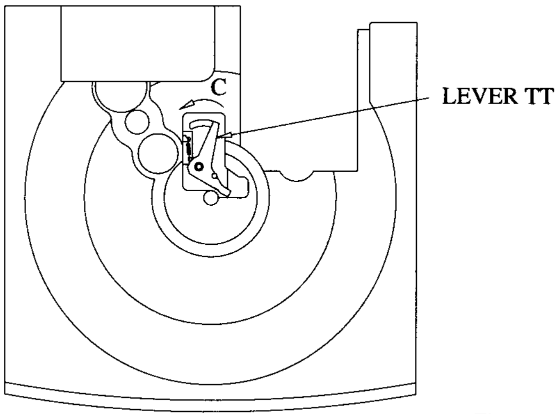


Fig-7

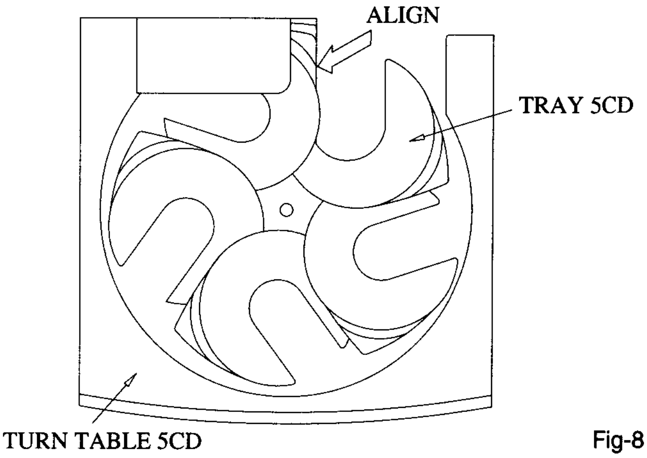
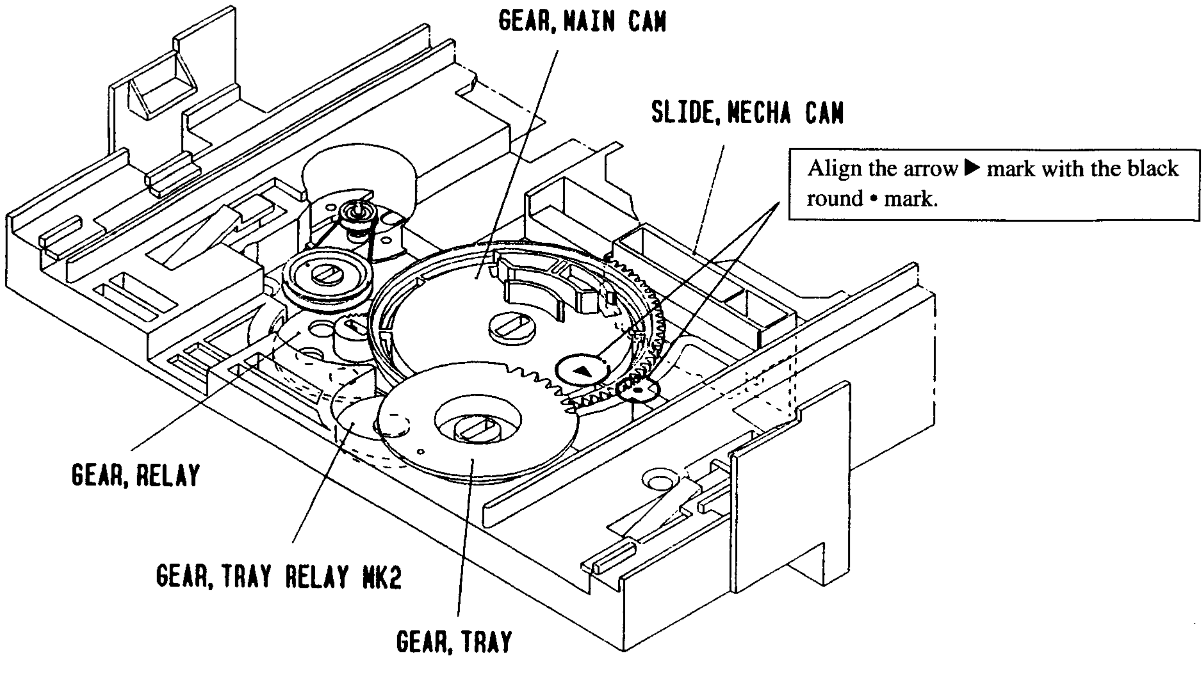

ALIGN
TRAY 5CD
TURN TABLE 5CD

Fig-8

How to Adjust the Rotating Phase of the Gear, Main Cam

1) Push down the hooking catch of the CHAS. MECH, and remove the TRAY.
2) Align the arrow mark of the Gear, Main Cam with the black round mark of the CHAS, MECHA as shown below.
3) Confirm that the Slide, Mech Cam is located in the right position, then insert the TRAY gently.

Caution: If the rotating phase of the Gear, Main Cam is incorrectly adjusted, the chucking operation and tray movement will have malfunction.


GEAR, MAIN CAM
SLIDE, MECHA CAM
GEAR, RELAY
GEAR, TRAY RELAY MK2
GEAR, TRAY

Align the arrow ▶ mark with the black round • mark.

MODEL NO. 6ZG-1 (D, F)

ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-017-745-010	2A	IC,CXA1782BQ
	87-070-294-010	2P	IC,CXD2508AQ
	87-017-888-080	1A	IC,NJM4558MD
	87-070-305-010	1F	IC,BA6897S
	87-001-982-010	1C	IC,TA7291S
TRANSISTOR			
	87-026-463-080	0E	TR,2SA933S (0.3W)
	87-026-233-080	0E	TR,DTA114TK-TP
	87-026-211-080	0E	TR,DTA144EK
	89-111-625-080	0E	TR,2SA1162 (0.15W)
	87-026-239-080	0E	TR,DTC114TK (0.2W)
	87-A30-047-080	0E	TR,CSD655E
	89-421-722-380	0E	TR,2SD2172V/W
	89-320-011-080	0E	TR,2SC2001 (15W)
	87-026-223-080	0E	TR,DTC143TK
	89-110-155-080	0E	TR,2SA1015(0.4W)
	87-026-608-080	0E	C-TR,DTC 123 JK<F>
	89-327-125-080	0E	CHIP TR,2SC2712GR<D>
DIODE			
	87-020-465-080	0E	DIODE,1SS133 (110MA)
CD MAIN C.B			
C11	87-010-182-020	0E	C-CAP,S 2200P-50 B
C12	87-016-081-020	0E	C-CAP,S 0.1-16 RK
C13	87-016-081-020	0E	C-CAP,S 0.1-16 RK
C14	87-016-081-020	0E	C-CAP,S 0.1-16 RK
C15	87-015-698-040	0E	CAP,E 4.7-50 7L
C16	87-012-393-020	0E	C-CAP,S 0.22-16,R,K
C17	87-010-197-020	0E	C-CAP,S 0.01-25 B
C18	87-010-402-040	0E	CAP,E 2.2-50 SME
C19	87-010-382-040	0E	CAP,E 22-25 SME
C20	87-010-213-020	0E	C-CAP,S 0.015-25 B
C21	87-010-197-020	0E	C-CAP,S 0.01-25 B
C22	87-010-263-040	0E	CAP,E 100-10
C23	87-010-197-020	0E	C-CAP,S 0.01-25 B
C24	87-016-369-020	0E	C-CAP,S 0.033-25 B K
C25	87-010-197-020	0E	C-CAP,S 0.01-25 B
C26	87-016-369-020	0E	C-CAP,S 0.033-25 B K
C27	87-010-197-020	0E	C-CAP,S 0.01-25 B
C28	87-010-146-020	0E	C-CAP,S 2P-50 CH
C29	87-010-154-020	0E	C-CAP,S 10P-50 CH
C30	87-010-263-040	0E	CAP,E 100-10
C31	87-010-178-020	0E	C-CAP,S 1000P-50 B
C32	87-010-198-020	0E	C-CAP,S 0.022-25 B
C33	87-016-081-020	0E	C-CAP,S 0.1-16 RK
C34	87-010-197-020	0E	C-CAP,S 0.01-25 B
C35	87-010-263-040	0E	CAP,E 100-10
C36	87-015-677-040	0E	CAP,E 100-6.3 7L
C37	87-010-197-020	0E	C-CAP,S 0.01-25 B
C38	87-010-260-080	0E	CAP, ELECT 47-25V
C39	87-010-196-020	0E	C-CAP,S 0.1-25 F
C91	87-010-263-040	0E	CAP,E 100-10
C101	87-010-596-020	0E	C-CAP,S 0.047-16 RK
C102	87-010-188-020	0E	C-CAP,S 6800P-50 B
C103	87-018-133-080	0E	CAPACITOR,CER 4700P-16V
C104	87-012-156-020	0E	C-CAP,S 220P-50 CH
C105	87-010-404-040	0E	CAP,E 4.7-50 SME
C106	87-010-263-040	0E	CAP,E 100-10
C107	87-010-197-020	0E	C-CAP,S 0.01-25 B
C108	87-016-526-020	0E	C-CAP,S 0.47-16 3K
C109	87-010-197-020	0E	C-CAP,S 0.01-25 B
C112	87-010-318-020	0E	C-CAP,S 47P-50 CH<D>
C113	87-010-263-080	0E	CAP, ELECT 100-10V
C114	87-010-197-020	0E	C-CAP,S 0.01-25 B
C115	87-010-318-020	0E	C-CAP,S 47P-50 CH
C116	87-010-318-020	0E	C-CAP,S 47P-50 CH
C117	87-010-197-020	0E	C-CAP,S 0.01-25 B
C122	87-010-186-020	0E	C-CAP,S 4700P-50 B
C123	87-010-382-040	0E	CAP,E 22-25 SME
C201	87-010-318-020	0E	C-CAP,S 47P-50 CH
C202	87-010-318-020	0E	C-CAP,S 47P-50 CH
C203	87-010-321-020	0E	C-CAP,S 82P-50 CH
C204	87-010-321-020	0E	C-CAP,S 82P-50 CH
C205	87-010-321-020	0E	C-CAP,S 82P-50 CH
C206	87-010-321-020	0E	C-CAP,S 82P-50 CH
C207	87-012-153-020	0E	C-CAP,S 120P-50 CH
C208	87-012-153-020	0E	C-CAP,S 120P-50 CH
C209	87-012-153-020	0E	C-CAP,S 120P-50 CH
C210	87-012-153-020	0E	C-CAP,S 120P-50 CH
C211	87-010-403-040	0E	CAP,E 3.3-50 SME
C212	87-010-403-080	0E	CAP, ELECT 3.3-50V
C213	87-010-186-020	0E	C-CAP,S 4700P-50 B
C214	87-010-186-020	0E	C-CAP,S 4700P-50 B
C231	87-016-251-040	0E	CAP,E 220-16 SMG
C232	87-010-263-080	0E	CAP, ELECT 100-10V
C301	87-010-196-020	0E	C-CAP,S 0.1-25 F
C302	87-010-260-080	0E	CAP, ELECT 47-25V
C401	87-010-403-080	0E	CAP, ELECT 3.3-50V
C402	87-010-403-040	0E	CAP,E 3.3-50 SME
C501	87-016-459-040	0E	CAP,E 470-10 SMG
C502	87-010-197-020	0E	C-CAP,S 0.01-25 B
C503	87-010-263-040	0E	CAP,E 100-10
C504	87-010-196-020	0E	C-CAP,S 0.1-25 F
C505	87-010-196-020	0E	C-CAP,S 0.1-25 F
C506	87-010-196-020	0E	C-CAP,S 0.1-25 F
C507	87-010-196-020	0E	C-CAP,S 0.1-25 F
C508	87-016-459-040	0E	CAP,E 470-10 SMG
C509	87-010-196-020	0E	C-CAP,S 0.1-25 F
C510	87-010-196-020	0E	C-CAP,S 0.1-25 F
C601	87-010-196-020	0E	C-CAP,S 0.1-25 F
C602	87-016-251-040	0E	CAP,E 220-16 SMG
C603	87-010-196-020	0E	C-CAP,S 0.1-25 F
C701	87-010-322-020	0E	C-CAP,S 100P-50 CH
C702	87-010-318-020	0E	C-CAP,S 47P-50 CH
C703	87-010-318-020	0E	C-CAP,S 47P-50 CH
C705	87-010-178-020	0E	C-CAP,S 1000P-50 B
C706	87-010-178-080	0E	CHIP CAP 1000P
C901	87-010-260-040	0E	CAP,E 47-25 SME<D>
C902	87-010-196-020	0E	C-CAP,S 0.1-25 F<D>
CN3	86-ZG1-609-010	1D	CONN ASSY,6P
FC1	86-ZG1-605-010	1A	CABLE,FFC 16P
FC2	86-ZG1-608-010	1B	CABLE,FFC 8P
L11	87-003-102-080	0E	COIL, 10UH
LED901	87-A40-123-010	0E	LED,SLZ-8128A-01-B<D>
M601	87-045-305-010	1E	MOTOR, RF-500TB DC-5V (2MA)
R36	87-022-365-020	0E	C-RES,S 100K-1/10W F
R37	87-022-363-020	0E	C-RES,S 68K-1/10W F
R38	87-022-363-020	0E	C-RES,S 68K-1/10W F
R39	87-022-363-020	0E	C-RES,S 68K-1/10W F
R40	87-022-363-020	0E	C-RES,S 68K-1/10W F
R41	87-022-365-020	0E	C-RES,S 100K-1/10W F
SFR11	87-024-175-080	0E	SEMI-FIXED RESISTOR, 47K
SFR12	87-024-173-080	0E	SEMI-FIXED RESISTOR, 22K
SFR13	87-024-176-080	0E	SEMI-FIXED RESISTOR, 100K
SW601	87-036-109-010	1A	PUSH SWITCH
SW602	87-036-109-010	1A	PUSH SWITCH
SW603	87-036-109-010	1A	PUSH SWITCH
X101	87-030-313-080	1D	VIB,XTAL 16.9344 MHZ
LED C.B<F>			
LED701	87-017-733-080	0E	LED,SEL1250SM<F>
LED702	87-017-350-080	0E	LED,SEL1550CM<F>

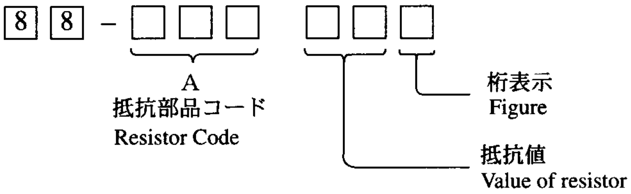
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
LED703	87-017-733-080	0E	LED,SEL1250SM<F>

T-T C.B

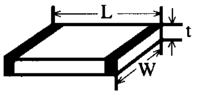
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C411	87-018-214-080	0E	CAP TC U 0.1-50F
LED411	87-070-288-010	0E	LED,GL380
M401	87-A90-036-010	1D	MOT ASSY,RF-300CA-11
PS401	87-A90-156-010	1B	SNSR,SG-240
Q411	87-A30-031-010	1A	P-TR,PT380F
S401	87-036-109-010	1A	PUSH SWITCH

○ チップ抵抗部品コード / CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding

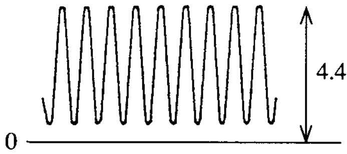


チップ抵抗
Chip resistor

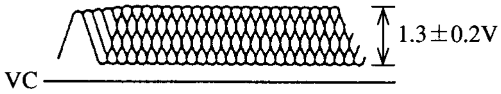
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法 / Diamensions (mm) 外形 / Form	L	W	t	抵抗コード :A Resistor Code : A
1/16W	1608	5%	CJ		1.6	0.8	0.45	108
1/10W	2125	5%	CJ		2	1.25	0.45	118
1/8W	3216	5%	CJ		3.2	1.6	0.55	128

WAVE FORM

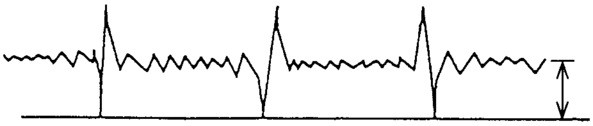
① SYSTEM CLOCK
f=16.9344MHz
VOLT/DIV: 2V
TIME/DIV: 0.1µS



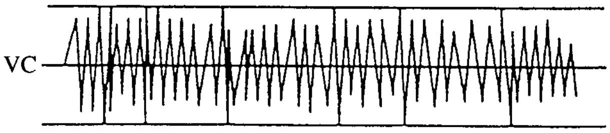
② RF
VOLT/DIV: 500mV
TIME/DIV: 0.5µS



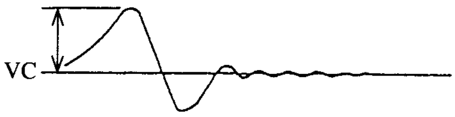
③ FOCUS
VOLT/DIV: 200mV
TIME/DIV: 2mS



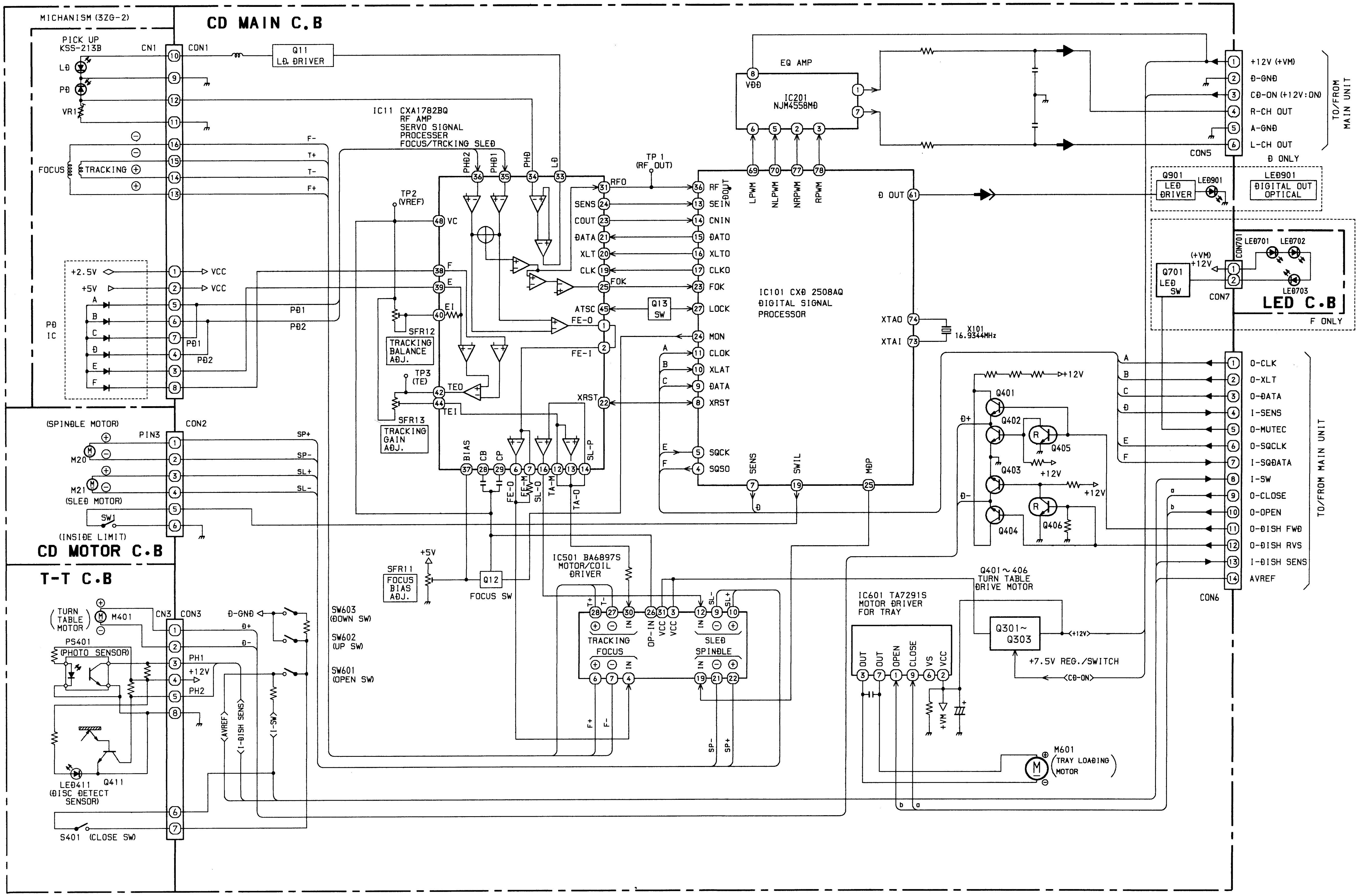
④ TRACKING
TIME/DIV: 1mS



⑤ FOCUS SEARCH

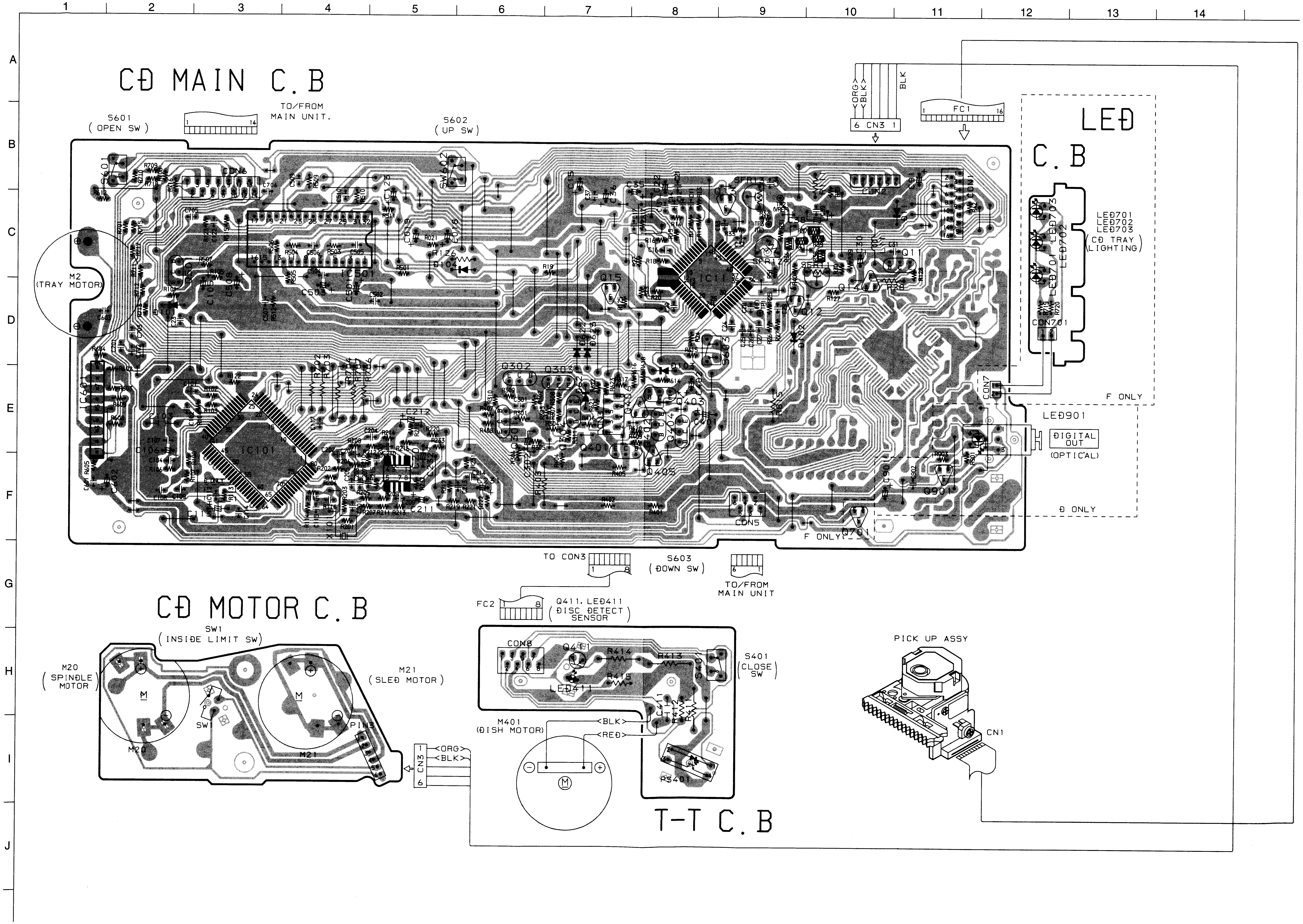


BLOCK DIAGRAM



MICHANISM (3ZG-2)
CD MAIN C.B
PICK UP KSS-213B
CN1
CON1
LD
PD
VR1
Q11 LD DRIVER
FOCUS
TRACKING
PD IC
+2.5V
+5V
VCC
PD1
PD2
IC11 CXA1782BQ RF AMP SERVO SIGNAL PROCESSER FOCUS/TRCKING SLED
TP2 (VREF)
VC
SFR12 TRACKING BALANCE ADJ.
TP3 (TE)
TEO
TE1
SFR13 TRACKING GAIN ADJ.
RFO
SENS
COUT
DATA
XLT
CLK
FOK
ATSC
FE-O
FE-I
XRST
Q13 SW
TP 1 (RF OUT)
BIAS
CB
CP
FE-O
FE-M
SL-O
TA-M
TA-O
SL-P
EQ AMP
IC201 NJM4558MD
VDD
LPWM
NLPWM
NRPWM
RPWM
RF
SEIN
CNIN
DATO
XLTO
CLKO
FOK
LOCK
MON
CLOK
XLAT
DATA
XRST
SQCK
SQSO
DOUT
IC101 CXD 2508AQ DIGITAL SIGNAL PROCESSOR
XTAO
XTAI
X101 16.9344MHz
D OUT
SENS
SWIL
MDP
CON5
+12V (+VM)
D-GND
CD-ON (+12V:ON)
R-CH OUT
A-GND
L-CH OUT
D ONLY
TO/FROM MAIN UNIT
Q901 LED DRIVER
LED901
LED901 DIGITAL OUT OPTICAL
CON701
LED701
LED702
LED703
Q701 LED SW
(+VM) +12V
CON7
LED C.B
F ONLY
CON6
O-CLK
O-XLT
O-DATA
I-SENS
O-MUTEC
O-SQCLK
I-SQDATA
I-SW
O-CLOSE
O-OPEN
O-DISH FWD
O-DISH RVS
I-DISH SENS
AVREF
TO/FROM MAIN UNIT
Q401
Q402
Q403
Q404
Q405
Q406
+12V
D+
D-
Q401～406 TURN TABLE DRIVE MOTOR
(SPINDLE MOTOR)
PIN3
CON2
M20
M21
(SLED MOTOR)
SW1
(INSIDE LIMIT)
SP+
SP-
SL+
SL-
CD MOTOR C.B
T-T C.B
TURN TABLE MOTOR
M401
CN3
CON3
PS401 (PHOTO SENSOR)
PH1
+12V
PH2
LED411
Q411
(DISC DETECT SENSOR)
S401 (CLOSE SW)
D-GND
SW603 (DOWN SW)
SW602 (UP SW)
SW601 (OPEN SW)
AVREF
I-DISH SENS
I-SW
SFR11 FOCUS BIAS ADJ.
+5V
Q12
FOCUS SW
IC501 BA6897S MOTOR/COIL DRIVER
TRACKING
FOCUS
SLED
SPINDLE
OP-IN
VCC
F+
F-
SP-
SP+
IC601 TA7291S MOTOR DRIVER FOR TRAY
OUT
OPEN
CLOSE
VS
VCC
+VM
Q301～Q303
+7.5V REG./SWITCH
(CD-ON)
M601
TRAY LOADING MOTOR

WIRING



1
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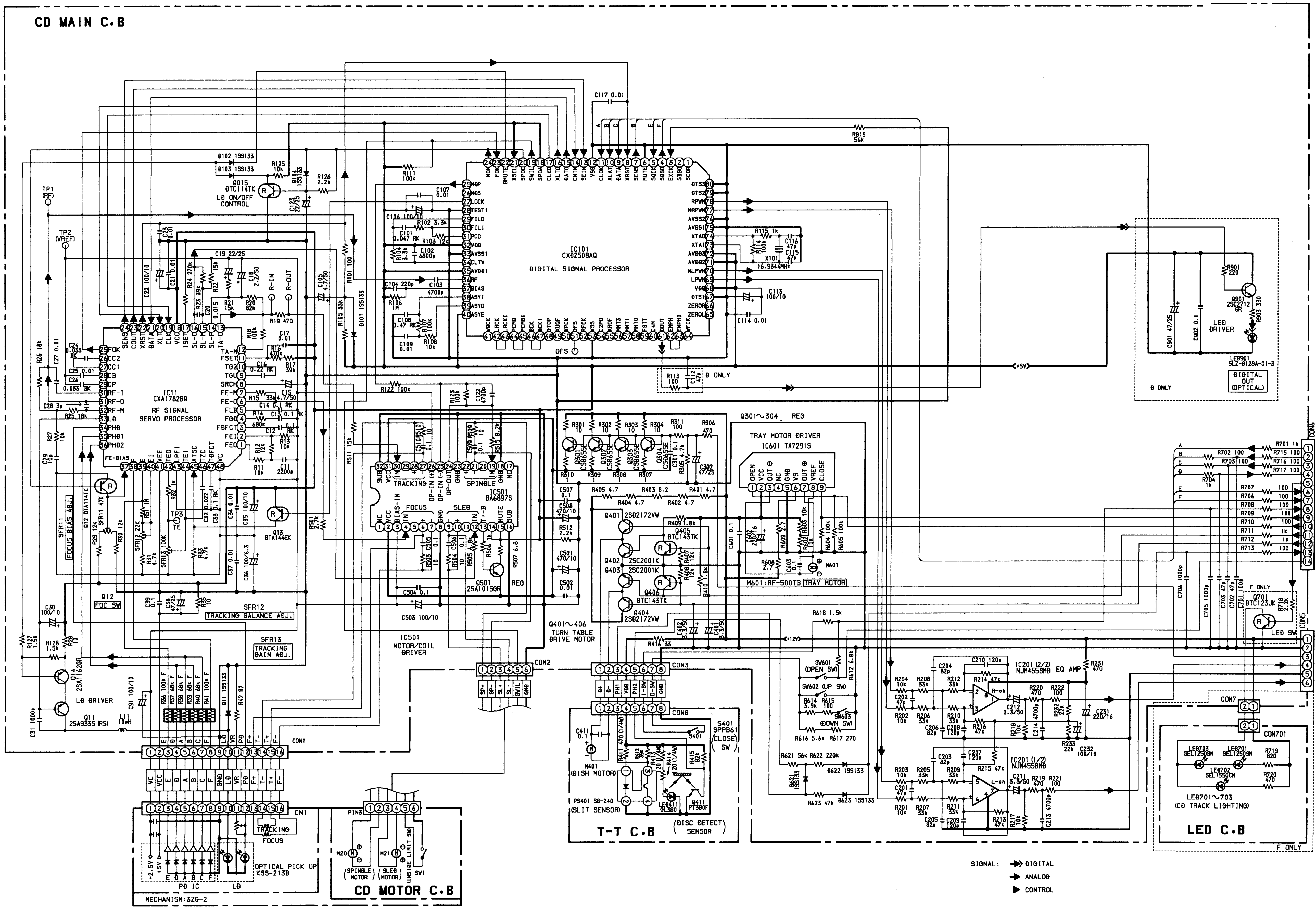
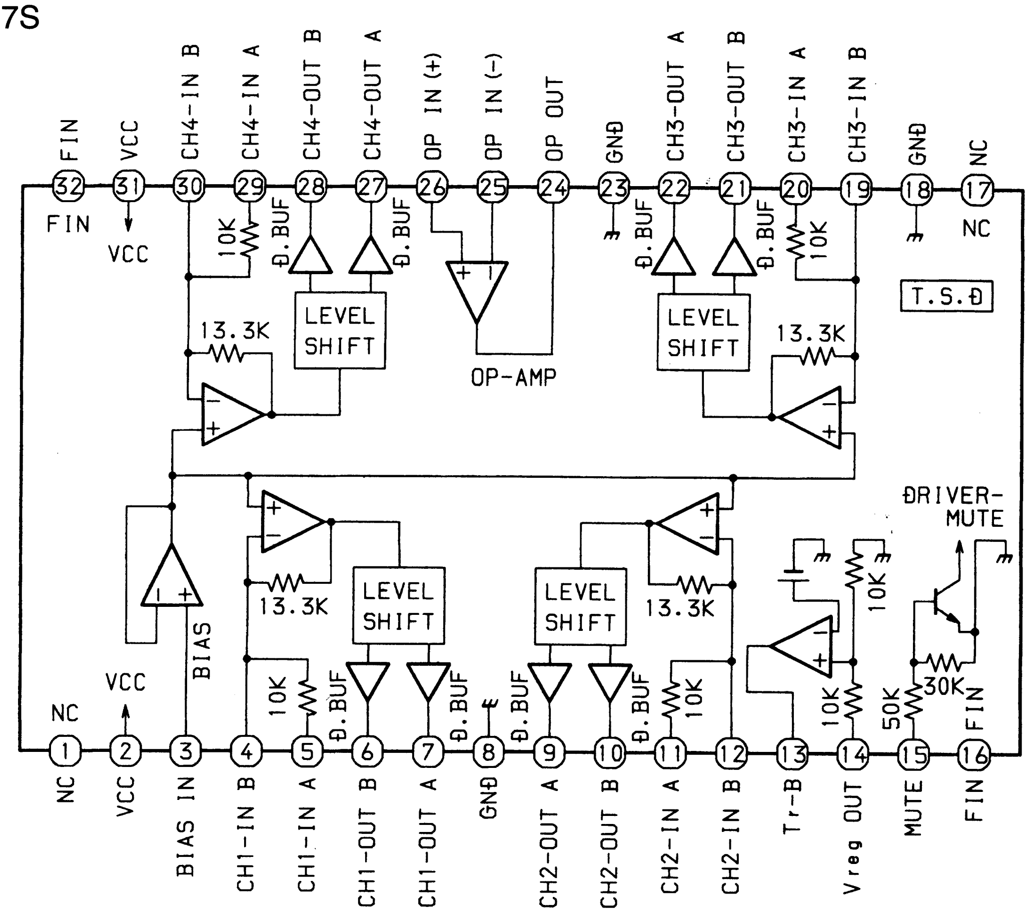
11
12
13
14
A
B
C
D
E
F
G
H
I
J
CD MAIN C.B
S601
(OPEN SW)
TO/FROM
MAIN UNIT.
S602
(UP SW)
ORG
BLK
BLK
6 CN3 1
FC1
1
16
LED
C.B
LED701
LED702
LED703
(CD TRAY
LIGHTING)
CON701
F ONLY
LED901
DIGITAL
OUT
(OPTICAL)
D ONLY
M2
(TRAY MOTOR)
CON6
IC501
IC11
IC101
IC601
CON2
CON1
CON7
CON5
Q701
F ONLY
Q901
TO CON3
1
8
S603
(DOWN SW)
TO/FROM
MAIN UNIT
FC2
Q411, LED411
(DISC DETECT
SENSOR)
CD MOTOR C.B
SW1
(INSIDE LIMIT SW)
M20
(SPINDLE
MOTOR)
M21
(SLED MOTOR)
M20
M21
SW
PIN3
CN3
ORG
BLK
CON8
Q411
R414
R413
R415
LED411
S401
(CLOSE
SW)
M401
(DISH MOTOR)
BLK
RED
PS401
T-T C.B
PICK UP ASSY
CN1

SCHEMATIC DIAGRAM

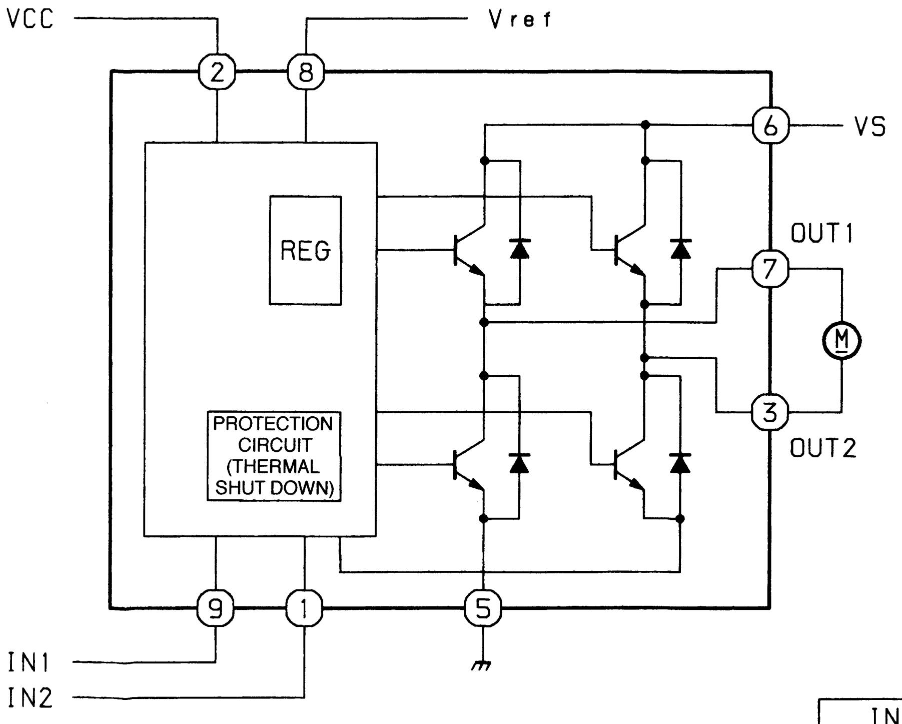

CD MAIN C.B
IC101 CXD2508AQ DIGITAL SIGNAL PROCESSOR
IC11 CXA1782BQ RF SIGNAL SERVO PROCESSOR
IC501 BA6897S
IC501 MOTOR/COIL DRIVER
TRAY MOTOR DRIVER IC601 TA7291S
Q301∼304 REG
Q401∼406 TURN TABLE DRIVE MOTOR
M601:RF-500TB TRAY MOTOR
IC201 (2/2) NJM4558MD EQ AMP
IC201 (1/2) NJM4558MD
SFR11 FOCUS BIAS ADJ.
SFR12 TRACKING BALANCE ADJ.
SFR13 TRACKING GAIN ADJ.
Q12 FOC SW
Q11 2SA9335 (RS)
Q14 2SA1626R
LD DRIVER
Q015 DTC114TK
LD ON/OFF CONTROL
TP1 (RF)
TP2 (VREF)
TP3
OPTICAL PICK UP KSS-213B
PD IC
LD
MECHANISM:3ZG-2
CD MOTOR C.B
SPINDLE MOTOR
SLED MOTOR
INSIDE LIMIT SW
T-T C.B
M401 (DISH MOTOR)
PS401 SG-240 (SLIT SENSOR)
(DISC DETECT SENSOR)
S401 SPPB61 (CLOSE SW)
SW601 (OPEN SW)
SW602 (UP SW)
SW603 (DOWN SW)
LED DRIVER
Q901 2SC2712 GR
LED901 SLZ-8128A-01-B
DIGITAL OUT (OPTICAL)
D ONLY
F ONLY
LED C.B
LED701∼703 (CD TRACK LIGHTING)
Q701 DTC123JK
LED SW
CON1
CN1
CON2
CON3
CON5
CON6
CON7
CON8
CON701
D-CLK
D-XLT
D-DATA
I-SENS
O-CD.LED
O-SQCLK
I-SQDATA
I-SW
O-CLOSE
O-OPEN
O-DISH FWD
O-DISH RVS
I-DISH SENS
AVREF
TO/FROM MAIN UNIT
VM (+12V)
D-GND
CD ON
R CH
A-GND
L CH
TO/FROM MAIN UNIT
SIGNAL:
DIGITAL
ANALOG
CONTROL

IC BLOCK DIAGRAM

IC, BA6897S


FIN
VCC
CH4-IN B
CH4-IN A
CH4-OUT B
CH4-OUT A
OP IN (+)
OP IN (-)
OP OUT
GND
CH3-OUT A
CH3-OUT B
CH3-IN A
CH3-IN B
GND
NC
32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
FIN
VCC
10K
D.BUF
D.BUF
LEVEL SHIFT
13.3K
OP-AMP
D.BUF
D.BUF
10K
NC
T.S.D
LEVEL SHIFT
13.3K
DRIVER-MUTE
BIAS
13.3K
LEVEL SHIFT
LEVEL SHIFT
13.3K
10K
VCC
NC
10K
D.BUF
D.BUF
D.BUF
D.BUF
10K
10K
50K
30K
FIN
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
NC
VCC
BIAS IN
CH1-IN B
CH1-IN A
CH1-OUT B
CH1-OUT A
GND
CH2-OUT A
CH2-OUT B
CH2-IN A
CH2-IN B
Tr-B
Vreg OUT
MUTE
FIN

IC, TA7291S


VCC
Vref
2
8
6
VS
REG
OUT1
7
M
3
OUT2
PROTECTION CIRCUIT (THERMAL SHUT DOWN)
9
1
5
IN1
IN2

INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	BRAKE

∞ : High impedance

Note: Input is active “H”.

IC DESCRIPTION

IC, CXA1782BQ

端子番号	端子名称	I/O	機　能　説　明
1	FEO	O	フォーカス・エラーアンプの出力端子です。 内部でFZCコンパレータ入力に接続されています。
2	FEI	I	フォーカス・エラーの入力端子です。
3	FDFCT	I	ディフェクト時の時定数用コンデンサ接続端子です。
4	FGD	I	フォーカス・サーボの高域ゲインを落とす場合、この端子をコンデンサで接地します。
5	FLB	I	フォーカス・サーボの低域持ち上げ用時定数外付け端子です。
6	FEO	O	フォーカス・ドライブ出力です。
7	FEM	I	フォーカス・アンプの反転入力端子です。
8	SRCH	I	フォーカス・サーチ波菰を作るための時定数外付け端子です。
9	TGU	I	トラッキング高域ゲイン切り換え用時定数外付け端子です。
10	TG2	I	トラッキング高域ゲイン切り換え用時定数外付け端子です。
11	FSET	I	フォーカス・トラッキングの位相補償のピーク設定用端子です。
12	TAM	I	トラッキング・アンプの反転入力端子です。
13	TAO	O	トラッキングドライブ出力。
14	SLP	I	スレッド・アンプの非反転入力端子です。
15	SLM	I	スレッド・アンプの反転入力端子です。
16	SLO	O	スレッドドライブ出力。
17	ISET	I	フォーカスサーチ、トラックジャンプ、スレッドキックの高さを決める電流を流します。
18	VCC	—	+5V電源供給端子。
19	CLK	I	シリアルデータ転送クロック入力です。
20	XLT	I	ラッチ入力です。
21	DATA	I	シリアルデータ入力です。
22	XRST	I	リセット入力端子“L”でリセットします。
23	COUT	O	トラック数カウント用信号出力です。
24	SENS	O	コマンドにより、FZC、DFCT、TZC、Gain、BAL、などを出力します。
25	FOK	O	フォーカスOKコンパレータの出力端子です。
26	CC2	O	DEFECTボトム・ホールド出力が容量結合されて入力される入力端子です。
27	CC1	I	DEFECTボトム・ホールド出力端子です。
28	CB	I	DEFECTボトム・ホールドコンデンサ接続端子です。
29	CP	I	MIRRホールド・コンデンサの接続端子です。かつ、MIRRコンパレータの非反転入力端子です。
30	RFI	I	RFサミングアンプの出力が容量結合されて入力される入力端子です。
31	RFO	O	RFサミングアンプの出力端子です。(EYEパターンのチェックポイント)
32	RFM	I	RFサミングアンプの反転入力端子です。 この端子とRFO端子間に接続された抵抗でRFアンプのゲインが決まります。
33	LD	O	APCアンプの出力端子です。
34	PHD	I	APCアンプの入力端子です。
35〜36	PHD1〜2	I	RF I-Vアンプの反転入力端子です。光学ピックアップのA+C、B+D端子に接続して電流入力で受けます。

端子番号	端子名称	I/O	機　能　説　明
37	FE BIAS	I	フォーカス･エラーアンプのバイアス調整用端子です。
38～39	F～E	I	F､EのI-Vアンプの反転入力端子です。光学ピックアップのF､Eに接続して電流入力で受けます。
40	EI	—	I-VアンプEのゲイン調整用端子です。
41	VEE	—	GND接続端子。
42	TEO	O	トラッキング･エラーアンプの出力端子です。E-F信号が出力されます。
43	LPFI	I	BAL調整用コンパレータ入力端子です。
44	TEI	I	トラッキング･エラーの入力端子です。
45	ATSC	I	ATSC検出用ウインドウコンパレータ入力端子です。
46	TZC	I	トラッキング･ゼロクロスコンパレータの入力端子です。
47	TDFCT	I	ディフェクト時の時定数用コンデンサ接続端子。
48	VC	O	VREFの直流電圧出力端子です。(VDD/2)

IC, CXD2508AQ

端子番号	端子名称	I/O	機　能　説　明
1	SCOR	O	サブコードシンクS0かS1どちらか検出された時H。
2	SBSO	O	SUBP～Wのシリアル出力。
3	EXCK	I	SBSOリード･アウト用クロック入力。
4	SQSO	O	SUBQ 80BITのシリアル出力。
5	SQCK	I	SQSOリード･アウト用クロック入力。
6	MUTE	I	Hでミュート、Lで解除。
7	SENS	O	SENS出力、CPUへ出力。
8	XRST	I	システムリセット、Lでリセット。
9	DATA	I	CPUよりシリアルデータ入力。
10	XLAT	I	CPUよりラッチ入力、立ち下がりでシリアルデータをラッチ。
11	CLOK	I	CPUよりシリアルデータ転送クロック入力。
12	VSS	—	GND端子。
13	SEIN	I	SSPよりセンス入力。
14	CNIN	I	トラックジャンプ数カウント信号入力。
15	DATO	O	SSPへのシリアルデータ出力。
16	XLTO	O	SSPへのシリアルデータラッチ出力、立ち下がりでラッチ。
17	CLKO	O	SSPへのシリアルデータ転送クロック出力。
18、20	SPOA、C	I	マイコン拡張インターフェース。
19	XTSL	I	Xtal選択入力端子。Xtalが16.9344MHzの時L、33.8688MHzの時Hにする。
22	XLON	O	マイコン拡張インターフェース。
23	FOK	I	フォーカスOK入力端子、SENS出力とサーボ･オートシーケンサに用いる。
24	MON	O	スピンドルモータのON/OFFコントロール出力。
25	MDP	O	スピンドルモータのサーボ制御。
26	MDS	O	スピンドルモータのサーボ制御。
27	LOCK	O	GFSを460Hzでサンプリングし、GFSがHの時H出力、8回連続Lの時L出力。
28	TEST1	I	TEST用端子。(GNDへ接続)
29	FILO	O	マスターPLL用(スレーブ=デジタルPLL)フィルター出力。
30	FILI	I	マスターPLL用フィルター入力。
31	PCO	O	マスターPLL用チャージポンプ出力。
32	VDD	—	電源端子。(+5V)
33	AVSS1	—	GND端子。
34	CLTV	I	マスターPLL用VCOコントロール電圧入力。
35	AVDD1	—	電源端子。(+5V)
36	RF	I	EFM信号入力。
37	BIAS	I	アシンメトリ補正回路定電流入力。
38	ASYI	I	アシンメトリ補正回路コンパレート電圧入力。
39	ASYO	O	EFMフルスイング出力。(L=VSS、H=VDD)
40	ASYE	I	L:アシンメトリ補正OFF、H:アシンメトリ補正ON。
41	WDCK	O	48bitスロット用D/Aインターフェイス、ワードクロック(2Fs)。
42	LRCK	O	48bitスロット用D/Aインターフェイス、LRクロック(Fs)。
43	LRCKI	I	DACへのLRクロック入力。(48bitスロット)

端子番号	端子名称	I/O	機　能　説　明
44	PCMD	O	D/Aインターフェイス、シリアルデータ。(2’COMP, MSBファースト)
45	PCMDI	I	DACへのオーディオデータ入力。(48bitスロット)
46	BCK	O	D/Aインターフェイス、ビットクロック。
47	BCKI	I	DACへのビットクロック入力。(48bitスロット)
48	GTOP	O	GTOP出力。
49	XUGF	O	XUGF出力。
50	XPCK	O	XPLCK出力。
51	GFS	O	GFS出力。
52	RFCK	O	RFCK出力。
53	VSS	—	GND端子。
54	C2PO	O	C2PO出力。
55	XROF	O	XRAOF出力。
56	MNT3	O	MNT3出力。
57	MNT1	O	MNT1出力。
58	MNT0	O	MNT0出力。
59	FSTT	O	73,74端子の2/3分周出力。
60	C4M	O	4.2336MHz出力。
61	DOUT	O	Digital Out出力端子。
62	EMPH	O	再生ディスクがエンファシス有りの時H、無しの時L。
63	EMPHI	I	DACのディエンファシスON/OFF、HでON、LでOFF。
64	WFCK	O	WFCK(WRITE FRAME CLOCK)出力。
65	ZEROL	O	無音データ検出出力、無音データ検出時“H”(Lch)。
66	ZEROR	O	無音データ検出出力、無音データ検出時“H”(Rch)。
67	DTSI	I	DAC用テスト端子。(通常L)
68	VDD	—	電源端子。(+5V)
69	NLPWM	O	Lch PWM出力。(正相)
70	LPWM	O	Lch PWM出力。(逆相)
71	AVDD2	—	Lch PWMドライバー用電源。(+5Vへ接続)
72	AVDD3	—	Xtal用電源。(+5Vへ接続)
73	XTAI	I	33.8688MHzのXtal発振回路入力。
74	XTAO	O	33.8688MHzのXtal発振回路出力。
75	AVSS1	—	XtalへのGND入力。(GNDへ接続)
76	AVSS2	—	PWMドライバへのGND入力。(GNDへ接続)
77	NRPWM	O	Rch PWM出力。(逆相)
78	RPWM	O	Rch PWM出力。(正相)
79	DTS2	I	DAC用テスト端子2。(通常L)
80	DTS3	I	DAC用テスト端子3。(通常L)

IC, CXA1782BQ

Pin No.	Pin Name	I/O	Description
1	FEO	O	Focus error amplifier output pin. This pin is connected to the FZC comparator input internally.
2	FEI	I	Focus error input pin.
3	FDFCT	I	Capacitor connection pin for time constant used when there is defect.
4	FGD	I	This pin is connected to GND via capacitor when high frequency gain of the focus servo is attenuated.
5	FLB	I	This is a pin where the time constant is externally connected to raise the low frequency gain of the focus servo.
6	FEO	O	Focus drive output.
7	FEM	I	Focus amplifier inverted input pin.
8	SRCH	I	This is a pin where the time constant is externally connected to generate the focus search waveform.
9	TGU	I	This is a pin where the selection time constant is externally connected to set the tracking servo the high frequency gain.
10	TG2	I	This is a pin where the selection time constant is externally connected to set the tracking high frequency gain.
11	FSET	I	Pin for setting peak of the phase compensator of the focus tracking.
12	TAM	I	Tracking amplifier inverted input pin.
13	TAO	O	Tracking drive output.
14	SLP	I	Sled amplifier non-inverted input pin.
15	SLM	I	Sled amplifier inverted input pin.
16	SLO	O	Sled drive output.
17	ISET	I	The current which determines height of the focus search, track jump and sled kick is input.
18	VCC	—	+ 5 V power supply pin.
19	CLK	I	Serial data transfer clock input from CPU.
20	XLT	I	Latch input from CPU.
21	DATA	I	Serial data input from CPU.
22	XRST	I	Reset input pin. Reset at L.
23	COUT	O	Signal output to count the number of tracks.
24	SENS	O	FZC, DFCT, TZC, Gain or BAL is output depending on the command from CPU.
25	FOK	O	Output pin of the focus OK comparator.
26	CC2	O	Input pin where the DEFECT bottom hold output is capacitance coupled.
27	CC1	I	DEFECT bottom hold output pin.
28	CB	I	This is a pin where the DEFECT bottom hold capacitor is connected.
29	CP	I	This is a pin where the MIRR hold capacitor is connected and MIRR comparator non-inverted signal is input.
30	RFI	I	Input pin where the RF summing amplifier output is capacitance coupled.
31	RFO	O	RF summing amplifier output pin. (Eye pattern check point)
32	RFM	I	RF summing amplifier inverted input pin. Gain of RF amplifier is determined by the resistor connected between RFO and this pin.

Pin No.	Pin Name	I/O	Description
33	LD	O	APC amplifier output pin.
34	PHD	I	APC amplifier input pin.
35-36	PHD1-2	I	RF I-V amplifier inverted input pin. These pins are connected to the A+C and B+D pins of the optical pickup.
37	FE BIAS	I	Bias adjustment pin of the focus error amplifier.
38-39	F-E	I	F and E IV amplifier non-inverted input pins. These pins are connected to the F and E of the optical pickup.
40	EI	—	Gain adjustment pin of the I-V amplifier E.
41	VEE	—	GND connection pin
42	TEO	O	Tracking error amplifier output pin. E-F signal is output.
43	LPFI	I	BAL adjustment comparator input pin.
44	TEI	I	Tracking error input pin.
45	ATSC	I	Window comparator input pin for detecting ATSC.
46	TZC	I	Tracking zero-cross comparator input pin.
47	TDFCT	I	Capacitor connection pin for the time constant used when there is defect.
48	VC	O	DC voltage output pin of VREF. (VDD/2)

IC, CXD2508AQ

Pin No.	Pin Name	I/O	Description
1	SCOR	O	H when the subcode sync S0 or S1 is detected.
2	SBSO	O	SUBP-W serial output.
3	EXCK	I	Clock input for SBSO read out.
4	SQSO	O	SUBQ 80-bit serial output.
5	SQCK	I	Clock input for SQSO read out.
6	MUTE	I	H to mute. L to cancel.
7	SENS	O	SENS signal output to CPU.
8	XRST	I	System reset. L to reset.
9	DATA	I	Serial data input from CPU .
10	XLAT	I	Latch input from CPU. Latching serial data at fall down.
11	CLOK	I	Clock input from CPU to transfer serial data.
12	VSS	—	GND.
13	SEIN	I	SENS input from SSP.
14	CNIN	I	Numbers of track jump are counted and input.
15	DATO	O	Serial data output to SSP.
16	XLTO	O	Serial data latched output to SSP. Latched at fall down edge.
17	CLKO	O	Clock input from SSP to transfer serial data.
18, 20	SPOA, C	I	Microprocessor expansion interface.
19	XTSL	I	X'tal selection input terminal. "L" at 16.9344MHz X'tal. "H" at 33.86888MHz.
22	XLON	O	Microprocessor expansion interface.
23	FOK	I	Focus OK input pin. Used for SENS output and servo auto sequencer.
24	MON	O	Spindle motor ON/OFF control output.
25	MDP	O	Spindle motor servo control output.
26	MDS	O	Spindle motor servo control output.
27	LOCK	O	GFS is sampled by 460Hz. H output when GFS is H. L output when GFS is L for 8 consecutive times.
28	TEST1	I	TEST. (Connected to GND)
29	FILO	O	Filter output to master PLL. (slave=digital PLL)
30	FILI	I	Filter input to master PLL.
31	PCO	O	Charge-pump output to master PLL.
32	VDD	—	Power supply input. (+5V)
33	AVSS1	—	GND.
34	CLTV	I	VCO control voltage input to master PLL.
35	AVDD1	—	Power supply input. (+5V)
36	RF	I	EFM signal input.
37	BIAS	I	Constant current input to asymmetry correction circuit.
38	ASYI	I	Comparate voltage input to asymmetry correction circuit.
39	ASYO	O	EFM full swing output. (L=VSS, H=VDD)
40	ASYE	I	L: asymmetry correction OFF. H: asymmetry correction ON
41	WDCK	O	D/A interface, word clock (2Fs) for 48-bit slot.
42	LRCK	O	D/A interface, LR clock (Fs) for 48-bit slot.

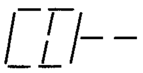
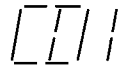
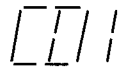
Pin No.	Pin Name	I/O	Description
43	LRCKI	I	LR clock input to DAC. (48-bit slot)
44	PCMD	O	D/A interface, serial data. (2's complement, MSB first)
45	PCMDI	I	Audio data input to DAC. (48-bit slot)
46	BCK	O	D/A interface, bit clock.
47	BCKI	I	Bit clock input to DAC. (48-bit slot)
48	GTOP	O	GTOP output.
49	XUGF	O	XUFG output.
50	XPCK	O	XPLCK output.
51	GFS	O	GFS output.
52	RFCK	O	RFCK output.
53	VSS	—	GND.
54	C2PO	O	C2PO output.
55	XROF	O	XRAOF output.
56	MNT3	O	MNT3 output.
57	MNT1	O	MNT1 output.
58	MNT0	O	MNT0 output.
59	FSTT	O	Pins-73 and -74 divided-by 2/3 output.
60	C4M	O	4.2336MHz output.
61	DOUT	O	Digital Out connector output signal.
62	EMPH	O	H when the playback disc has emphasis. L when it does not.
63	EMPHI	I	DAC emphasis ON/OFF. H when ON. L when OFF
64	WFCK	O	WFCK (WRITE FRAME CLOCK) output.
65	ZEROL	O	No sound data detection output. H (L-ch) when no sound data is detected.
66	ZEROR	O	No sound data detection output. H (R-ch) when no sound data is detected.
67	DTSI	I	TEST for DAC. (Normally "L")
68	VDD	—	Power supply input. (+5V)
69	NLPWM	O	L-ch PWM output. (reversed polarity)
70	LPWM	O	L-ch PWM output. (normal polarity)
71	AVDD2	—	Power supply input to L-ch PWM driver. (Connected to +5V)
72	AVDD3	—	Power supply input to X'tal. (Connected to +5V)
73	XTAI	I	X'tal input to 33.8688MHz oscillator circuit.
74	XTAO	O	33.8688MHz X'tal oscillator circuit output.
75	AVSS1	—	GND input to X'tal. (Connected GND)
76	AVSS2	—	GND input to PWM driver. (Connected to GND)
77	NRPWM	O	R-ch PWM output. (reversed phase)
78	RPWM	O	R-ch PWM output. (normal phase)
79	DTS2	I	TEST-2 for DAC. (Normally "L")
80	DTS3	I	TEST-3 for DAC. (Normally "L")

TEST MODE

1. CDテストモードの起動方法
ファンクションCDの釦を押しながら、ACプラグを挿入する。
上記によりFL表示管が全て点灯し、テストモードが起動します。

2. CDテストモードの解除方法
下記のいずれか1つの操作で解除します。
・ファンクション釦を押す　・パワーSW釦を押す。
(CDファンクション釦以外)　・ACプラグを抜く。

3. CDテストモードの機能説明
テストモード起動後、各操作釦を押す事により次のNo1～No5の各モード機能が使用できます。

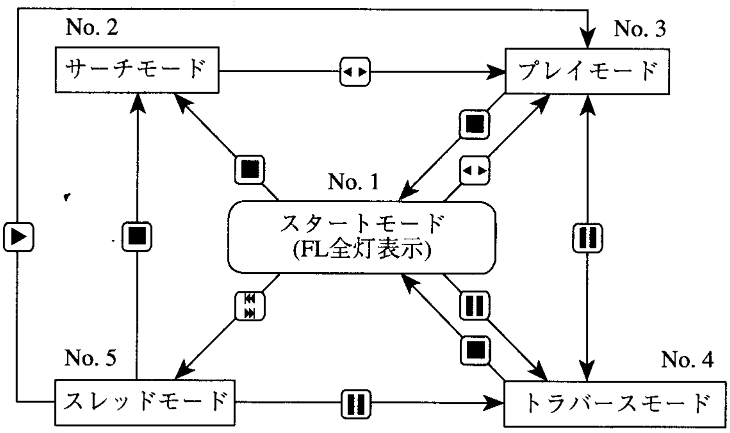
Mode/No.	操作	FL表示	動作	内容
スタートモード No.1	起動	全灯表示	・TEST MODE 起動 ・LASER DIODE 常時発光 (CDブロック電源ON)	・FL表示確認(全灯) ・APC回路確認 ・レーザー電流測定 (レーザー電流コントロール、トランジスタのエミッターGND間の抵抗の両端。)
サーチモード No.2	■釦		・連続フォーカスサーチ (PUレンズがフルスイングを繰り返す) ＊10分以上の連続フォーカスは避けて下さい。　＊注1	FOCUS SERVO ・フォーカスラッチ波形確認 ・フォーカスエラー波形確認 (サーチモードではFOK/FZCは監視せず。)
プレイモード No.3	◀▶釦		・通常再生 ・TOC READ出来ない場合 フォーカスサーチを続行　＊注1	FOCUS SERVO/TRACKING SERVO CLV SERVO/SLED SERVO FOK/FZC確認
トラバース モード No.4	❚❚釦		・DISC通常再生中 1回押す トラッキングサーボOFF 2回押す トラッキングサーボON ＊注2	TRACKING SERVO ON/OFF トラッキングバランス(トラバース)調整
スレッドモード No.5	⏮釦 ⏭	全灯表示	・ピックアップ外周へ移動 ・ピックアップ内周へ移動 ＊注3 (再生中は通常動作致します)	SLED SERVO SLEDメカ動作確認

＊注1　フォーカスサーチを連続して10分以上動作し続けるとドライバーICが発熱し保護回路が働く為、トラッキングサーボがかからない状態となる場合が有ります。この様な場合には、電源を切り約10分間放熱後、再スタートして下さい。

＊注2　『❚❚』状態で、『⏮』または『⏭』釦を押さない事。『❚❚』状態解除後、再生出来なくなります。『❚❚』状態で、『⏮』または『⏭』釦を押した場合には『■』釦を押しスタートモード(No.1)に戻して下さい。

＊注3　ピックアップが最内周、最外周の位置でも『⏮』または『⏭』釦を押している間はスレッドモータが回転する為、ギヤ破損に注意して下さい。

4. 操作概要
下図の様にスタートモードから、矢印方向の流れで各モードの操作が行えます。モード変更は、下図の流れに従い行って下さい。



尚、DISC DIRECT PLAY釦を押した場合には、上図のPLAY釦を押した時と同様の動作となります。またプレイモード／トラバースモード時にopen/close釦により、トレイをopenさせた場合には、スタートモードに戻ります。

1. How to Activate CD Test Mode
   Insert the AC plug while pressing the function CD button.
   All FL display tubes will light up, and the test mode will be activated.

2. How to Cancel CD Test Mode
   Either one of the following operations will cancel the CD test mode.
   - Press the function button. (except CD function button)
   - Press the power switch button.
   - Disconnect the AC plug

3. CD Test Mode Functions
   When test mode is activated, the following mode functions from No.1 to No.5 can be used by pressing the operation keys.

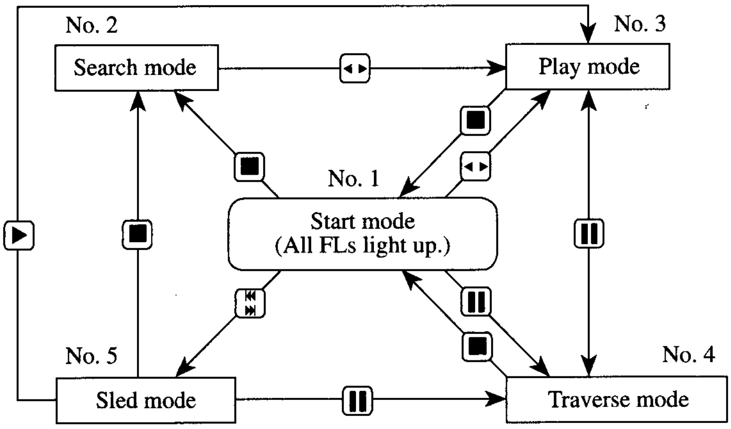
Mode/No.	Operation	FL display	Operation	Contents
Start mode No.1	Activation	All lamps light	• Test mode is activated. • Laser diode turns always ON. (CD block power is ON.)	• FL display check (All displays light.) • APC circuit check • Laser current measurement (Laser current control. Across a resistor connected between emitter and GND.)
Search mode No.2	■ key	CD--	• Continual focus search (The pickup lens repeats the full-swing up-down motion.) * Avoid continual searches that last for more than 10 minutes. * NOTE 1	FOCUS SERVO • Check focus search waveform • Check focus error waveform (FOK/FZC are not monitored in the search mode)
Play mode No.3	◀ ▶ key	CD 1	• Normal playback • Focus search is continued if TOC cannot be read. * NOTE 1	FOCUS SERVO/TRACKING SERVO CLV SERVO/SLED SERVO Check FOK/FZC
Traverse mode No.4	❚❚ key	CD 1	• During normal disc playback Press once; tracking servo OFF Press twice; tracking servo ON * NOTE 2	TRACKING SERVO ON/OFF Tracking balance (traverse) adjustment
Sled mode No.5	⏮ key ⏭	All lamps light	• Pickup moves to the outermost track • Pickup moves to the innermost track * NOTE 3 (During playback, machine operates normally.)	SLED SERVO Check SLED mechanism operation

* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.

* NOTE 2: Do not press the ⏮ or ⏭ keys when the machine is in the ❚❚ status is active. If they are pressed, playback will not be possible after the ❚❚ status has been canceled. If the ⏮ or ⏭ keys are pressed in the ❚❚ status, press the ■ key and return to the start mode (No.1).

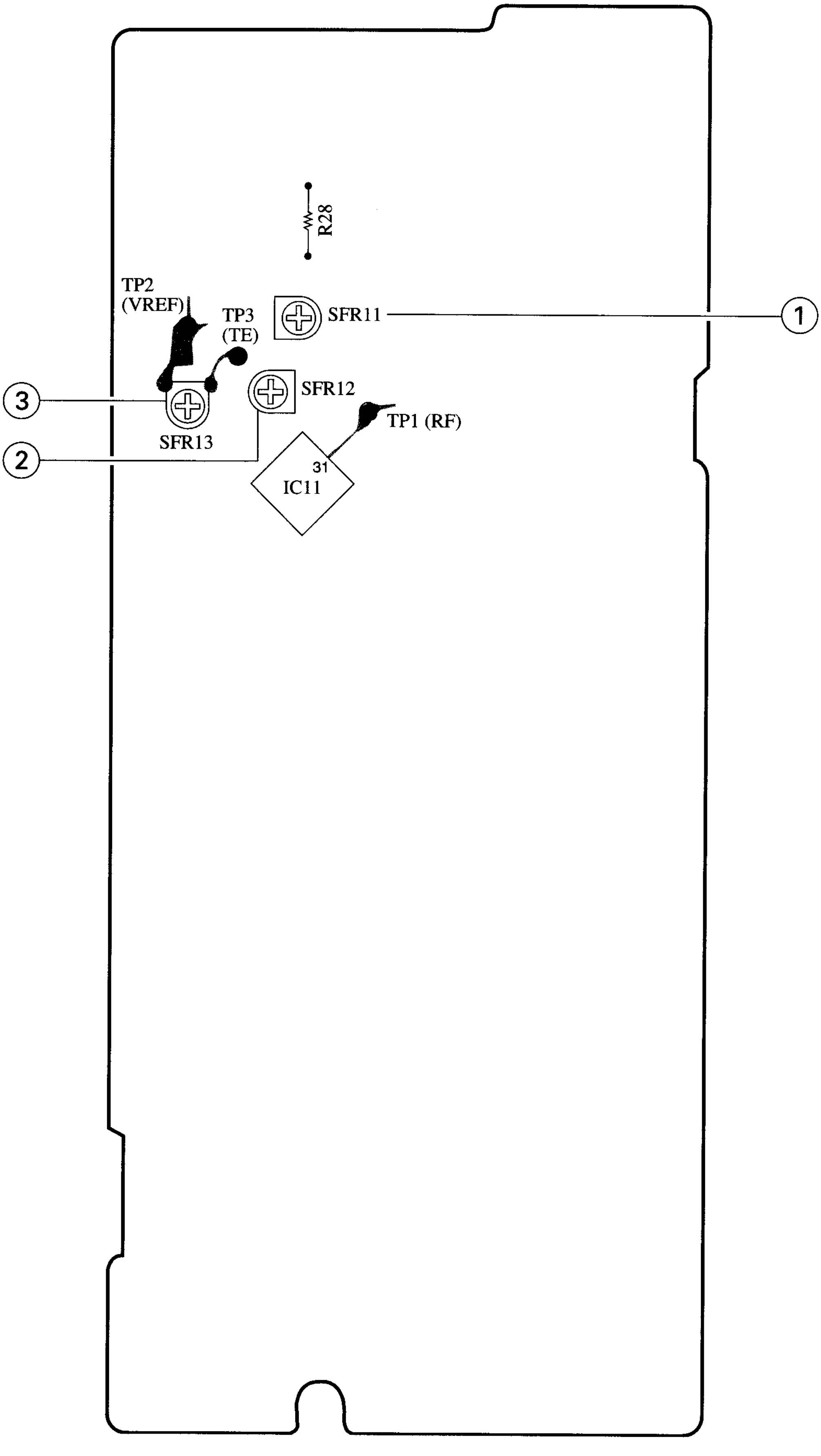
* NOTE 3: When pressing the ⏮ or ⏭ keys, take care to avoid damage to the gears. Because the sled motor is activated when the ⏮ or ⏭ keys are pressed, even when the pick-up is at the outermost or innermost track.

4. Operation Outline
   The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.



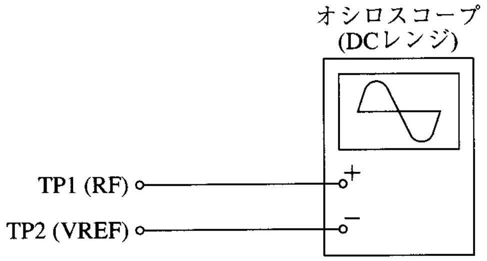
If the DISC DIRECT PLAY button is pressed, the machine performs the same operation as the PLAY button is pressed as shown. If the tray is opened by pressing OPEN/CLOSE button during Play mode or Traverse mode, the machine returns to the Start mode.

CD MAIN C.B (PATTERN SIDE)

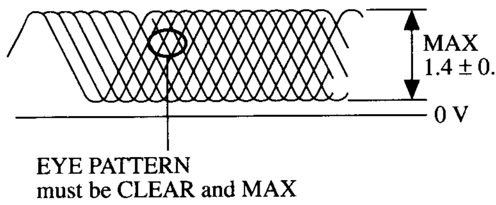

R28
TP2
(VREF)
TP3
(TE)
SFR11
①
SFR12
③
SFR13
②
TP1 (RF)
31
IC11

注意: ・ (10: 1) のプローブを接続して、調整して下さい。
・ 各調整には、オシロスコープの⊖側をTP2 (VREF) に接続して下さい。

1. フォーカスバイアス調整
この調整は、光学系ブロックを交換修理した場合に調整すること。

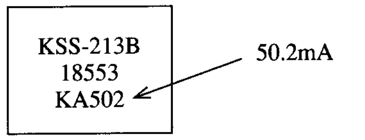


1) テストポイントTP1 (RF)、TP2 (VREF) にオシロスコープを接続する。
2) POWERスイッチをONにする。
3) テストディスクTCD-782 (YEDS-18) を入れて2曲目をPLAYさせる。
4) オシロスコープの波形の振幅が最大となり、かつ中央のひし形が、鮮明になるようにSFR11を調整する。



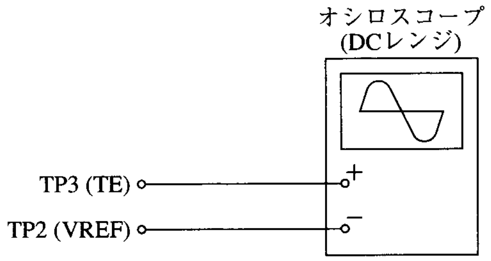
VOLT/DIV: 50mV
TIME/DIV: 0.5 μS

注意: レーザー電流の確認はR28 (10Ω の両端電圧) で行えます。レーザーピックアップの裏側のラベルの電流値に対して±6.0mAに入っていること。

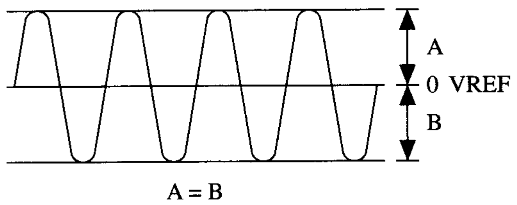


$$\text{レーザー電流Iop} = \frac{\text{R28の両端電圧}}{10\Omega}$$

2. トラッキング・バランス調整



1) テストポイントTP3 (TE)、TP2 (VREF) にオシロスコープを接続する。
2) POWERスイッチをONにする。
3) テストディスクTCD-782 (YEDS-18) を入れて、▶PLAY状態にする。
4) SFR13を回しトラッキングゲインを絞る。
5) オシロスコープのトラバース波形が、下図のように上下対称になるようにSFR12を調整する。
6) 調整後、各端子のアースリード線をはずす。



VOLT/DIV: 20mV
TIME/DIV: 1mS

3. トラッキングゲイン調整
この調整を正確に行うためには、サーボアナライザーが必要です。しかし、このゲインはマージンを持っているため、通常では少し位ずれていてもほとんど問題はありません。したがってこの調整は行わないで下さい。フォーカス/トラッキングゲインは2軸デバイス動作時の機械的雑音と機械的ショックに対するピックアップの追従性を決めています。しかし、これは互いに相反するため、両方を満足する点に調整してあります。

- ● ゲインを上げると2軸デバイス動作時の雑音が増加する。
- ● ゲインを下げると機械的ショックに弱くなり音飛びを起こしやすくなる。

そしてゲインの調整がずれていると次頁の様な症状が出ます。

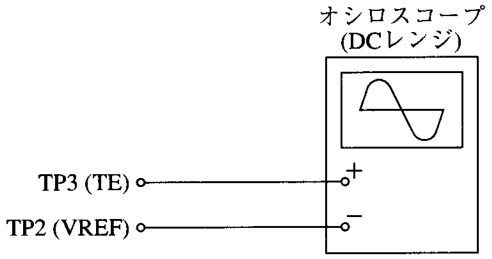
ゲイン 症状	(フォーカス)	トラッキング
● STOP →▶PLAY 時，又は自動選曲時 (⏮, ⏭ボタンを押したとき) に演奏が始まるまでの時間が長くなる。(通常は2秒位です。)	低い	低い 又は 高い
● STOP →▶PLAY 時，又は自動選曲時 (⏮, ⏭ボタンを押したとき) に演奏が始まらないでディスクが回転を続ける。	——	低い
● STOP →▶PLAY 時，しばらくすると回転が止まる。	低い又は高い	——
● 演奏中に音がとぎれる。又，タイムカウンターの表示が進まなくなる。	——	低い
● 2軸ディバイス動作時のノイズが多くなる。	高い	高い

なお、簡易調整として下記の方法があります。

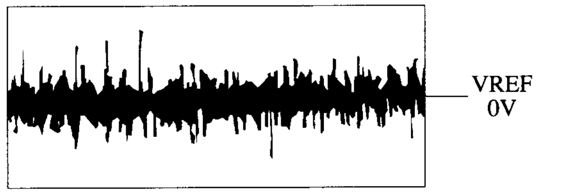
—— 簡易調整 ——

注意: 正確には調整できないため、調整を行う前にボリュームの位置を憶えておいて、簡易調整を行った後のボリュームの位置と比較して、そのずれが少ないときは元のボリュームの位置に戻しておいて下さい。

調整方法:



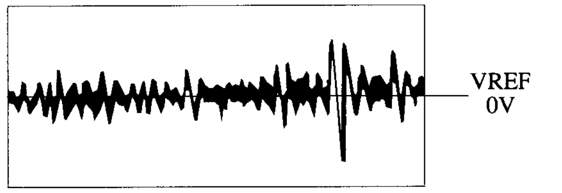
1. セットを水平に置く。
(セットを水平に置かないと2軸デバイスが重力の影響を受け、調整出来ません。)
2. テストディスクTCD-782 (YEDS-18)を入れて2曲目を再生する。
3. オシロスコープをTP3 (TE)、TP2 (VREF) に接続する。
4. オシロスコープの波形が下図の波形になるようにSFR13を調整する。(トラッキングゲイン調整)



VOLT/DIV: 50mV
TIME/DIV: 1mS

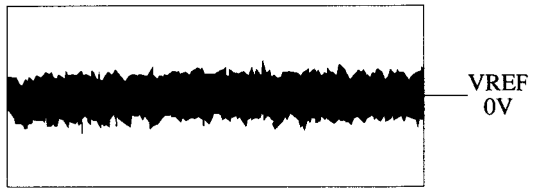
● 悪い例

トラッキングゲインが低い時
(調整されている波形と比べて基本波が表れるようになる。)



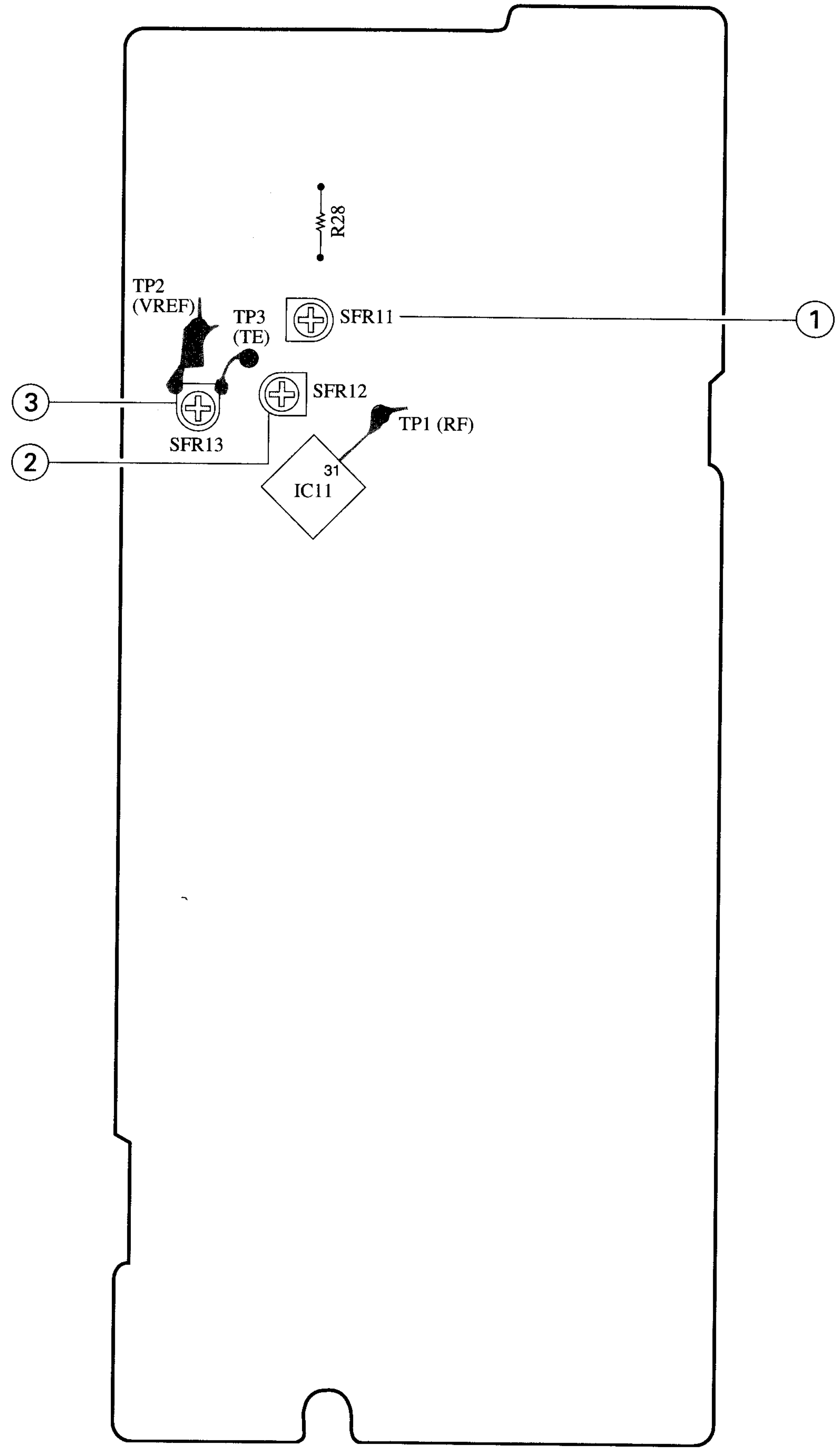
VOLT/DIV: 50mV
TIME/DIV: 1mS

トラッキングゲインが高い時
(ゲインが低い時と比べて基本波が高い)



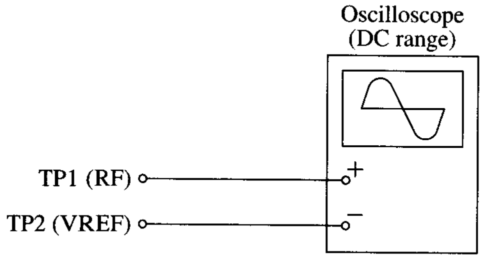
VOLT/DIV: 50mV
TIME/DIV: 1mS

CD MAIN C.B (PATTERN SIDE)

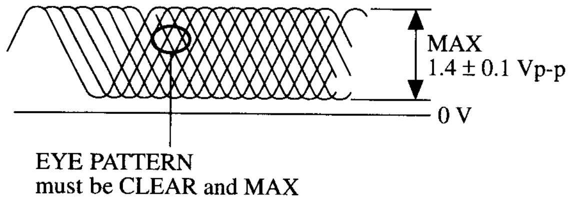

R28
TP2 (VREF)
TP3 (TE)
SFR11
SFR12
SFR13
TP1 (RF)
31
IC11
①
②
③

Note:
- Connect a probe (10: 1) of the oscilloscope or the frequency counter to a test point.
- During adjustment, connect (⊖) pin of an oscilloscope to TP2 (VREF).

1. Focus Bias Adjustment
   Make the focus bias adjustment when replacing and repairing the optical block.

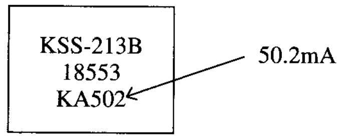

Oscilloscope
(DC range)
TP1 (RF)
TP2 (VREF)
+
−

1) Connect an oscilloscope to test points TP1 (RF) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
4) Adjust SFR11 so that RF signal of test point TP1 (RF) is MAX and CLEARREST.


MAX
1.4 ± 0.1 Vp-p
0 V
EYE PATTERN
must be CLEAR and MAX

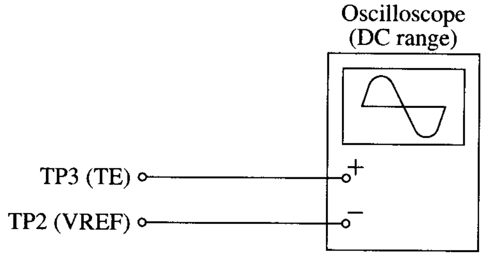
VOLT/DIV: 50mV
TIME/DIV: 0.5μS

Note: The current of the laser signal can be checked with the voltages on both sides of R28 (10Ω). The difference for the specified value shown on the lavel must be within±6.0mA.

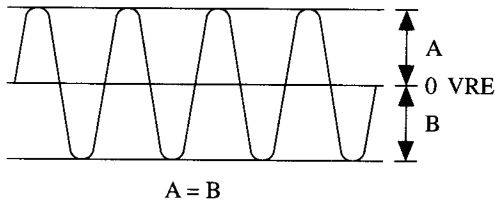

KSS-213B
18553
KA502
50.2mA

$$\text{Laser current Iop} = \frac{\text{Voltage across R28}}{10\Omega}$$

2. Tracking Balance Adjustment


Oscilloscope
(DC range)
TP3 (TE)
TP2 (VREF)
+
−

1) Connect an oscilloscope to test points TP3 (TE) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and press the PLAY button.
4) Adjust SFR13 to decrease the tracking gain..
5) Adjust SFR12 so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
6) After the adjustment is completed, remove the connected lead wires from the terminals.



VOLT/DIV: 20mV
TIME/DIV: 1mS

3. Tracking Gain Adjustment

A servo analyzer is necessary in order to perform this adjustment exactly. However, this gain has a margin, so even if it is slightly off, there is no problem. Therfore, do not perform this adjustment.
Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when 2-axis device operates. However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise increases when the 2-axis device operates.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.
  When the gain adjustment is off, the symptoms below appear.

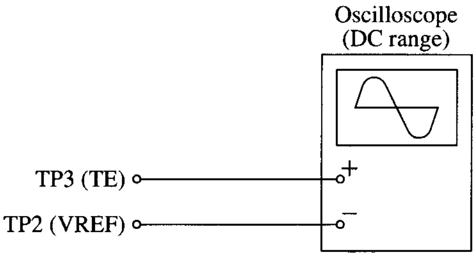
Gain Symptoms	(Focus)	Tracking
● The time until music starts becomes longer for STOP → ▶PLAY or automatic selection (⏮, ⏭ buttons pressed.) (Normally takes about 2 seconds.)	low	low or high
● Music does not start and disc continues to rotate for STOP →▶PLAY or automatic selection (⏮, ⏭ buttons pressed.)	———	low
● Disc stops to rotate shortly after STOP →▶PLAY.	low or high	———
● Sound is interrupted during PLAY. Or time counter display stops.	———	low
● More noises during the 2-axis device operation.	high	high

The following is simple adjustment method.

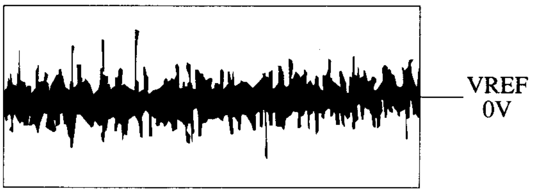
— Simple adjustment —

Note: Since the exact adjustment cannot be performed, remember the positions of the controls before the performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procedure:



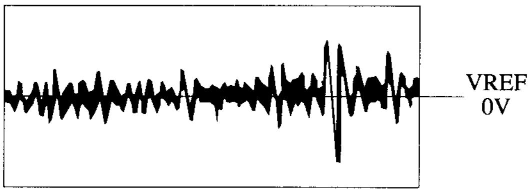
1) Keep the set horizontal. (If the set is not kept horizontally, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
3) Connect an oscilloscope to TP3 (TE), TP2 (VREF).
4) Adjust SFR13 so that the waveform appears as shown in the figure below. (tracking gain adjustment)



VOLT/DIV: 50mV
TIME/DIV: 1mS

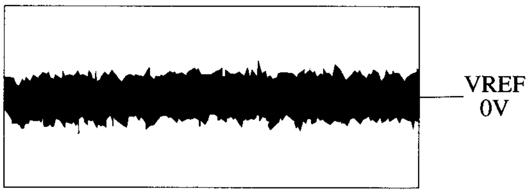
- Incorrect example

Low tracking gain
(The fundamental wave appears as compared with the waveform adjusted.)



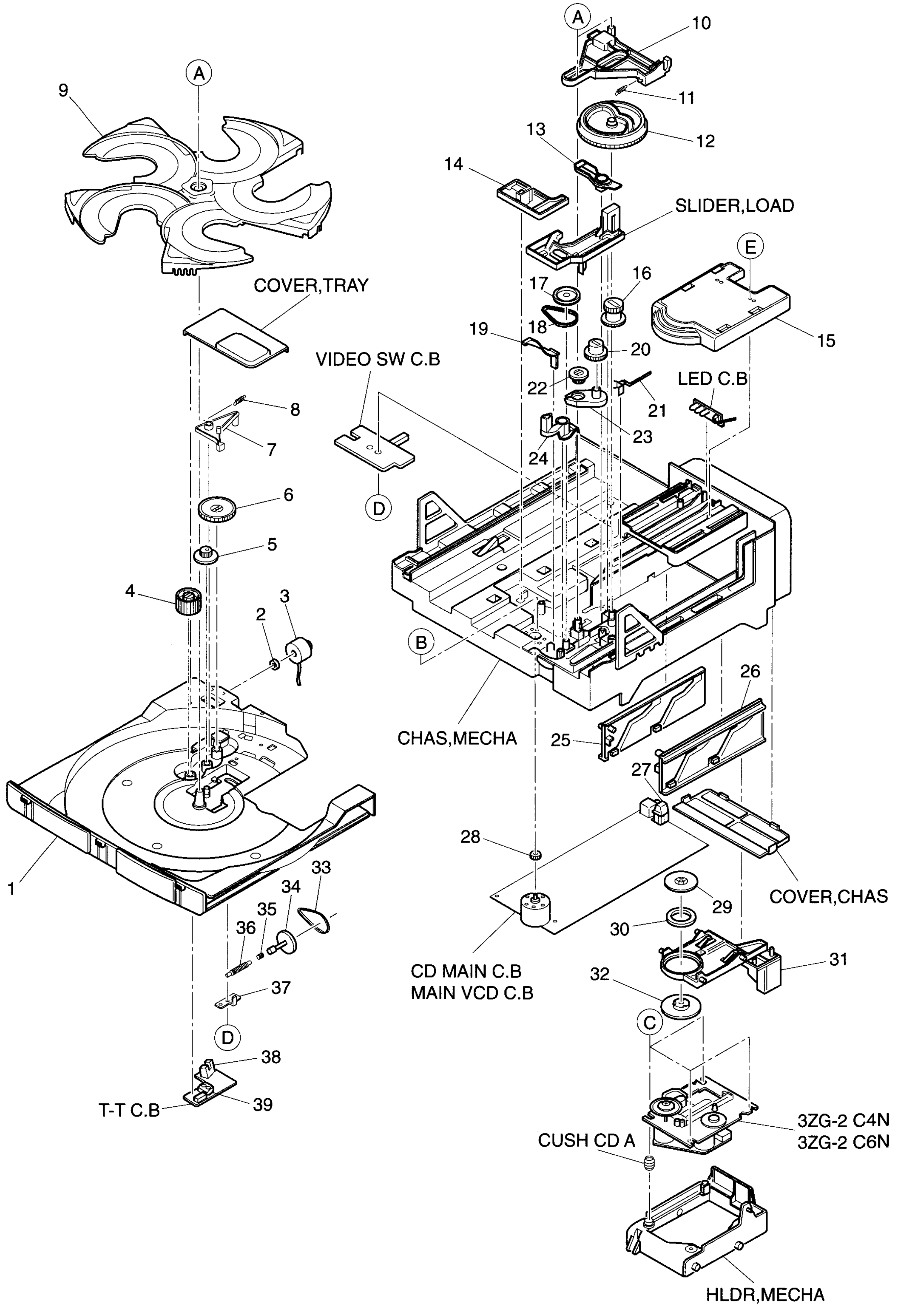
VOLT/DIV: 50mV
TIME/DIV: 1mS

High tracking gain
(The frequency of the fundamental wave is higher than that in low gain.)



VOLT/DIV: 50mV
TIME/DIV: 1mS

MECHANICAL EXPLODED VIEW 1/1

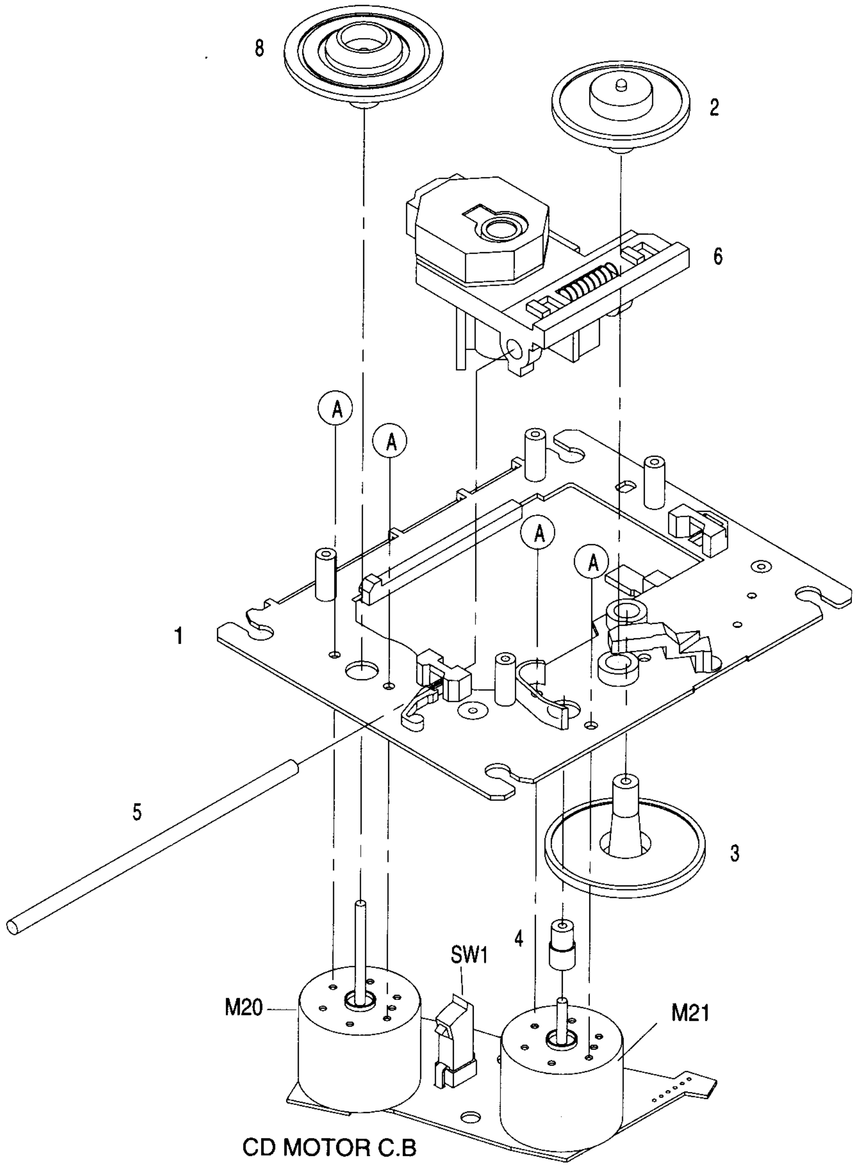

A
9
COVER,TRAY
8
7
6
5
4
3
2
1
33
34
35
36
37
D
38
39
T-T C.B
VIDEO SW C.B
D
A
10
11
12
13
14
SLIDER,LOAD
E
16
17
18
19
20
15
LED C.B
21
22
23
24
B
CHAS,MECHA
25
26
27
28
COVER,CHAS
29
30
31
32
CD MAIN C.B
MAIN VCD C.B
C
3ZG-2 C4N
3ZG-2 C6N
CUSH CD A
HLDR,MECHA

MECHANICAL PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	86-ZG1-001-310	2M	TRAY,5CD
2	81-ZG1-212-010	0E	PULLY,LOAD MO
3	87-A90-036-010	1D	MOT ASSY,RF-300CA-11
4	86-ZG1-228-110	0E	GEAR,TT-B
5	86-ZG1-227-110	0E	GEAR,TT-A
6	86-ZG1-223-110	0E	GEAR,WORM-WHEEL TT
7	86-ZG1-224-110	0E	LEVER,TT
8	86-ZG1-226-010	0E	SPR-E,LEVER TT
9	86-ZG1-002-210	2A	TURN TABLE,5CD
10	86-ZG1-211-210	1B	JOINT,CAM
11	86-ZG1-216-010	0E	SPR-E,JT
12	86-ZG1-203-110	1B	GEAR,MAIN CAM
13	86-ZG1-213-110	0E	LEVER,LOAD
14	86-ZG1-214-110	0E	LEVER,PROTECT
15	86-ZG1-004-010	1B	REFLECTOR,CD
16	86-ZG1-205-110	0E	GEAR,TRAY
17	84-ZG1-207-010	0E	PULLEY,RELAY
18	84-ZG1-209-010	0E	BELT,SQ1.8-117.7
19	86-ZG1-217-010	0E	LEVER,SW
20	86-ZG1-206-110	0E	GEAR,RELAY B
21	86-ZG1-220-110	0E	SPR-P,LOCK
22	86-ZG1-204-110	0E	GEAR,RELAY A
23	86-ZG1-218-110	0E	PLATE,GEAR
24	86-ZG1-208-010	1A	LEVER,TRAY
25	86-ZG1-209-110	1B	SLIDER,CAM L(*)
26	86-ZG1-210-110	1B	SLIDER,CAM R(*)
27	84-ZG1-244-210	1A	CABI,OPTICAL<D>
28	84-ZG2-228-010	0E	PULLEY,MOT
29	83-ZG3-211-010	0E	PLATE,DISC
30	83-ZG3-602-010	1A	RING,MAG
31	86-ZG1-215-010	1B	HLDR,CHUCK
32	83-ZG3-212-010	0E	CAP,DISC<EXCEPT S>
32	86-ZG1-237-010	1A	HLDR,MAGNET 6ZG<S>
33	86-ZG1-225-010	0E	BELT,SQ1.2-32.9
34	86-ZG1-221-010	1A	PULLEY,TT
35	86-ZG1-231-010	0E	SPR-C,WORM
36	84-ZG1-256-010	1A	GEAR,WORM N2
37	86-ZG1-232-010	0E	SPR-P,WORM
38	86-ZG1-229-010	0E	HLDR,SENSOR
39	86-ZG1-230-010	0E	HLDR,DISC SENSOR
A	87-078-148-010	0E	VFT2+3-12(F10) BLK
B	87-251-072-410	0E	U+2.6-5
C	81-ZG1-254-010	0E	S-SCREW,MECH HLDR
D	87-067-579-010	0E	TAPPING SCREW, BVT2+3-8
E	87-067-703-010	0E	TAPPING SCREW, BVT2+3-10

CD MECHANISM EXPLODED VIEW 1/1 (3ZG-2 C4N)



CD MECHANISM PARTS LIST 1/1 (3ZG-2 C4N)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-232-11K	--	O-SERT S ASSY,S5
2	83-ZG2-204-419	0E	GEAR,A
3	83-ZG2-205-219	0E	GEAR,B
4	83-ZG2-220-01K	0E	GEAR MOTOR 2
5	83-ZG2-207-119	1A	SHAFT,SLIDE
6	87-070-445-010	2C	PICK-UP,KSS-213B
8	83-ZG2-227-01K	--	TURN TABLE,C1
A	87-261-032-219	0E	SCREW V+2-3

MODEL NO. 6ZG-1 (D, F, G, V1, V2)

ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-002-783-110	2Y	IC,CXD2500BQ
	87-002-532-010	1C	IC,PQ05RF11
	87-017-825-010	1E	IC,GP1F32T<D>
	84-ZG1-669-010	2M	C-IC,MB89627R-361
	87-017-543-080	1A	IC,PST600D
	87-A20-255-040	1B	C-IC,SN74LV373NS
	87-A20-251-040	1H	C-IC,BR6265BF-N10SL
	87-A20-252-040	0E	C-IC,SN74LV00NS
	87-A20-253-040	0E	C-IC,SN74LV04NS
	87-A20-254-040	0E	C-IC,SN74LV32NS
	87-A20-244-010	3M	C-IC,CL484
	87-A20-200-040	2E	C-IC,HM514260CJ7/CLJ7
	84-ZG1-640-040	1H	C-IC,LH5317YR
	87-A20-256-040	1C	C-IC,PQ20VZ5U
	87-A20-247-010	2P	C-IC,BU1417AK
	87-A20-248-040	1H	C-IC,BU2173F
	87-A20-258-040	1H	C-IC,SM5877AM
	87-001-982-010	1C	IC,TA7291S
	87-017-745-010	2A	C-IC,CXA1782BQ
	87-A20-257-040	1H	C-IC,BA6791FP
TRANSISTOR			
	89-327-125-080	0E	C-TR,2SC2712GR
	89-113-625-080	0E	C-TR,2SA1362GR
	87-026-237-080	0E	C-TR,DTC124XK
	89-111-625-080	0E	C-TR,2SA1162GR
	87-026-470-080	1A	C-TR,HN1C03FB
	87-026-580-080	0E	C-TR,DTA123JK
	89-333-266-080	0E	C-TR,2SC3326B
	87-A30-117-010	1A	TR,2SA1357
	89-318-155-080	0E	TR,2SC1815GR
	87-026-223-080	0E	C-TR,DTC143TK
	89-421-722-380	0E	TR,2SD2172V/W
	89-320-011-080	0E	TR,2SC2001K
DIODE			
	87-020-027-080	0E	C-DIODE,1SS184
	87-A40-180-040	0E	C-DIODE,SB07-015C
	87-A40-196-080	0E	C-ZENER,UDZ6.2B
MAIN VCD C.B			
C101	87-010-197-080	0E	C-CAP,S 0.01-25 K B<D>
C102	87-010-550-040	0E	CAP,E 100-6.3 5L SRE<D>
C103	87-010-318-080	0E	C-CAP,S 47P-50 J CH<D>
C104	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C105	87-010-318-080	0E	C-CAP,S 47P-50 J CH
C106	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C107	87-012-156-080	0E	C-CAP,S 220P-50 J CH GRM
C108	87-010-184-080	0E	C-CAP,S 3300P-50 K B
C109	87-010-194-080	0E	C-CAP,S 0.047-25 Z F
C111	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C112	87-012-358-080	0E	C-CAP,S 0.47-10 Z F
C113	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C114	87-010-550-040	0E	CAP,E 100-6.3 5L SRE
C115	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C119	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C121	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C130	87-010-178-080	0E	C-CAP,S 1000P-50 K B
C201	87-010-499-040	0E	CAP,E 22-6.3 M 5L SRE
C203	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C204	87-010-316-080	0E	C-CAP,S 33P-50 J CH
C205	87-010-316-080	0E	C-CAP,S 33P-50 J CH
C206	87-010-499-040	0E	CAP,E 22-6.3 M 5L SRE
C207	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C208	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C209	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C210	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C211	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C301	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C302	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C303	87-010-178-080	0E	C-CAP,S 1000P-50 K B
C304	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C305	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C306	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C307	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C308	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C309	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C310	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C311	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C312	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C313	87-010-318-080	0E	C-CAP,S 47P-50 J CH
C314	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C315	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C316	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C320	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C321	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C322	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C323	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C324	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C402	87-010-550-040	0E	CAP,E 100-6.3 5L SRE
C403	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C404	87-012-140-080	0E	C-CAP,S 470P-50 J CH
C405	87-010-322-080	0E	C-CAP,S 100P-50 J CH
C406	87-012-140-080	0E	C-CAP,S 470P-50 J CH
C407	87-010-371-080	0E	CAP,E 470-6.3 M SME
C408	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C409	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C410	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C412	87-010-550-040	0E	CAP,E 100-6.3 5L SRE
C413	87-010-314-080	0E	C-CAP,S 22P-50 J CH
C414	87-010-316-080	0E	C-CAP,S 33P-50 J CH
C415	87-010-499-040	0E	CAP,E 22-6.3 M 5L SRE
C416	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C418	87-010-197-080	0E	C-CAP,S 0.01-25 K B<V1>
C420	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C421	87-012-140-080	0E	C-CAP,S 470P-50 J CH
C422	87-010-184-080	0E	C-CAP,S 3300P-50 K B
C423	87-010-175-080	0E	C-CAP,S 560P-50 J SL
C424	87-010-317-080	0E	C-CAP,S 39P-50 J CH
C425	87-012-140-080	0E	C-CAP,S 470P-50 J CH
C426	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C488	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C501	87-010-550-040	0E	CAP,E 100-6.3 5L SRE
C502	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C505	87-010-313-080	0E	C-CAP,S 18P-50 J CH
C506	87-010-313-080	0E	C-CAP,S 18P-50 J CH
C507	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C508	87-010-178-080	0E	C-CAP,S 1000P-50 K B
C509	87-010-178-080	0E	C-CAP,S 1000P-50 K B
C510	87-010-178-080	0E	C-CAP,S 1000P-50 K B
C511	87-010-178-080	0E	C-CAP,S 1000P-50 K B
C512	87-010-498-040	0E	CAP,E 10-16 M 5L SRE
C513	87-010-498-040	0E	CAP,E 10-16 M 5L SRE
C514	87-010-318-080	0E	C-CAP,S 47P-50 J CH
C515	87-010-318-080	0E	C-CAP,S 47P-50 J CH
C516	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C601	87-010-060-040	0E	CAP,E 100-16 M 7L SRA
C602	87-010-432-040	1B	CAP,AS 10-16 M SC
C603	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C604	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C605	87-A10-222-040	1B	CAP,AS 22-10 OS
C606	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C607	87-012-140-080	0E	C-CAP,S 470P-50 J CH
C616	87-010-552-040	0E	CAP,E 22-16 M 5L SRE
C651	87-010-101-080	0E	CAP,E 220-16 SME
C652	87-010-496-040	0E	CAP,E 3.3-50 M 5L SRE

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C653	87-010-496-040	0E	CAP,E 3.3-50 M 5L SRE
C701	87-010-313-080	0E	C-CAP,S 18P-50 J CH
C702	87-010-193-080	0E	C-CAP,S 0.033-25 Z F C2012
C703	87-010-993-080	0E	C-CAP,S 0.056-25 K B MK212
C704	87-010-993-080	0E	C-CAP,S 0.056-25 K B MK212
C705	87-016-463-080	0E	C-CAP,S 0.33-16 B
C707	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C708	87-010-805-080	0E	C-CAP,S 1-16 Z F
C709	87-010-322-080	0E	C-CAP,S 100P-50 J CH
C710	87-016-081-080	0E	C-CAP,S 0.1-16 K R
C711	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C712	87-012-140-080	0E	C-CAP,S 470P-50 J CH
C713	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C714	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C715	87-012-141-080	0E	C-CAP,S 0.22-16 Z F
C716	87-010-186-020	0E	C-CAP,S 4700P-50 B
C717	87-012-141-080	0E	C-CAP,S 0.22-16 Z F
C718	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C719	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C720	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C721	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C722	87-010-497-040	0E	CAP,E 4.7-35 5L SRE
C723	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C725	87-010-550-040	0E	CAP,E 100-6.3 5L SRE
C726	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C727	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C728	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C729	87-010-182-080	0E	C-CAP,S 2200P-50 K B
C731	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C733	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C734	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C735	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C736	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C737	87-010-805-080	0E	C-CAP,S 1-16 Z F
C738	87-010-178-080	0E	C-CAP,S 1000P-50 K B
C751	87-016-081-080	0E	C-CAP,S 0.1-16 K R
FB401	83-XM1-617-080	0E	C-COIL,BK2125HM601<V2>
FB402	83-XM1-617-080	0E	C-COIL,BK2125HM601<V2>
FC1	86-ZG1-605-010	1A	CABLE,FFC 16P
FC2	86-ZG1-608-010	1B	CABLE,FFC 8P
J401	87-009-502-010	1A	JACK,PIN 1P YEL W/O SW<V1>
L101	87-005-204-080	0E	COIL,47UH K EL0606
L202	87-005-204-080	0E	COIL,47UH K EL0606
L301	87-005-204-080	0E	COIL,47UH K EL0606
L302	87-005-204-080	0E	COIL,47UH K EL0606
L303	87-005-204-080	0E	COIL,47UH K EL0606
L304	87-005-204-080	0E	COIL,47UH K EL0606
L401	87-005-196-080	0E	COIL,10UH K EL0606KSI
L402	87-005-781-080	0E	C-COIL, 47UH FLC32C
L404	87-005-190-080	0E	COIL,3.3UH K EL0606
L405	87-005-189-080	0E	COIL,2.7UH K EL0606
L601	87-005-469-080	0E	COIL,4.7UH J FLR50
L602	87-A50-095-010	1A	COIL,68UH RCR875D
M601	87-045-305-010	1F	MOTOR, RF-500TB DC-5V (2MA)
R740	87-022-364-080	0E	C-RES,S 82K-1/10W F
R741	87-022-361-080	0E	C-RES,S 47K-1/10W F
R742	87-022-361-080	0E	C-RES,S 47K-1/10W F
R743	87-022-361-080	0E	C-RES,S 47K-1/10W F
R744	87-022-361-080	0E	C-RES,S 47K-1/10W F
R745	87-022-364-080	0E	C-RES,S 82K-1/10W F
S101	87-036-109-010	1A	SW,MICRO SPPB61
S102	87-036-109-010	1A	SW,MICRO SPPB61
S103	87-036-109-010	1A	SW,MICRO SPPB61
SFR101	87-024-175-080	0E	SFR,47K H RH0638C
SFR102	87-024-176-080	0E	SFR,100K H RH0638C
SFR103	87-024-175-080	0E	SFR,47K H RH0638C
X202	87-A70-027-080	1C	VIB,XTAL 8.0MHZ-100PPM
X401	87-A70-026-080	1C	VIB,XTAL 13.5MHZ-50PPM
X501	87-030-270-080	1C	VIB,XTAL 16.9344MHZ HC-49/U03

LED C.B<F>

LED701	87-017-733-080	0E	LED,SEL1250SM<F>
LED702	87-017-350-080	0E	LED,SEL1550CM<F>
LED703	87-017-733-080	0E	LED,SEL1250SM<F>

T-T C.B

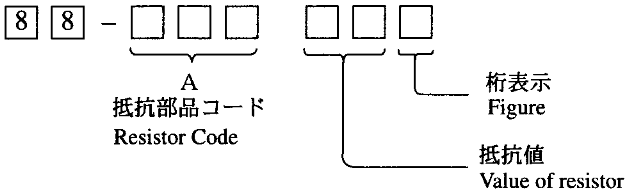
C411	87-018-214-080	0E	CAP TC U 0.1-50F
LED411	87-070-288-010	0E	LED,GL380
M401	87-A90-036-010	1D	MOT ASSY,RF-300CA-11
PS401	87-A90-156-010	1B	SNSR,SG-240
Q411	87-A30-031-010	1A	P-TR,PT380F
S401	87-036-109-010	1A	PUSH SWITCH

VIDEO SW C.B

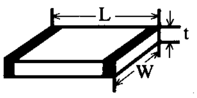
SW801	87-A90-238-010	1A	SW,SL 1-1-3 9L

○ チップ抵抗部品コード / CHIP RESISTOR PART CODE

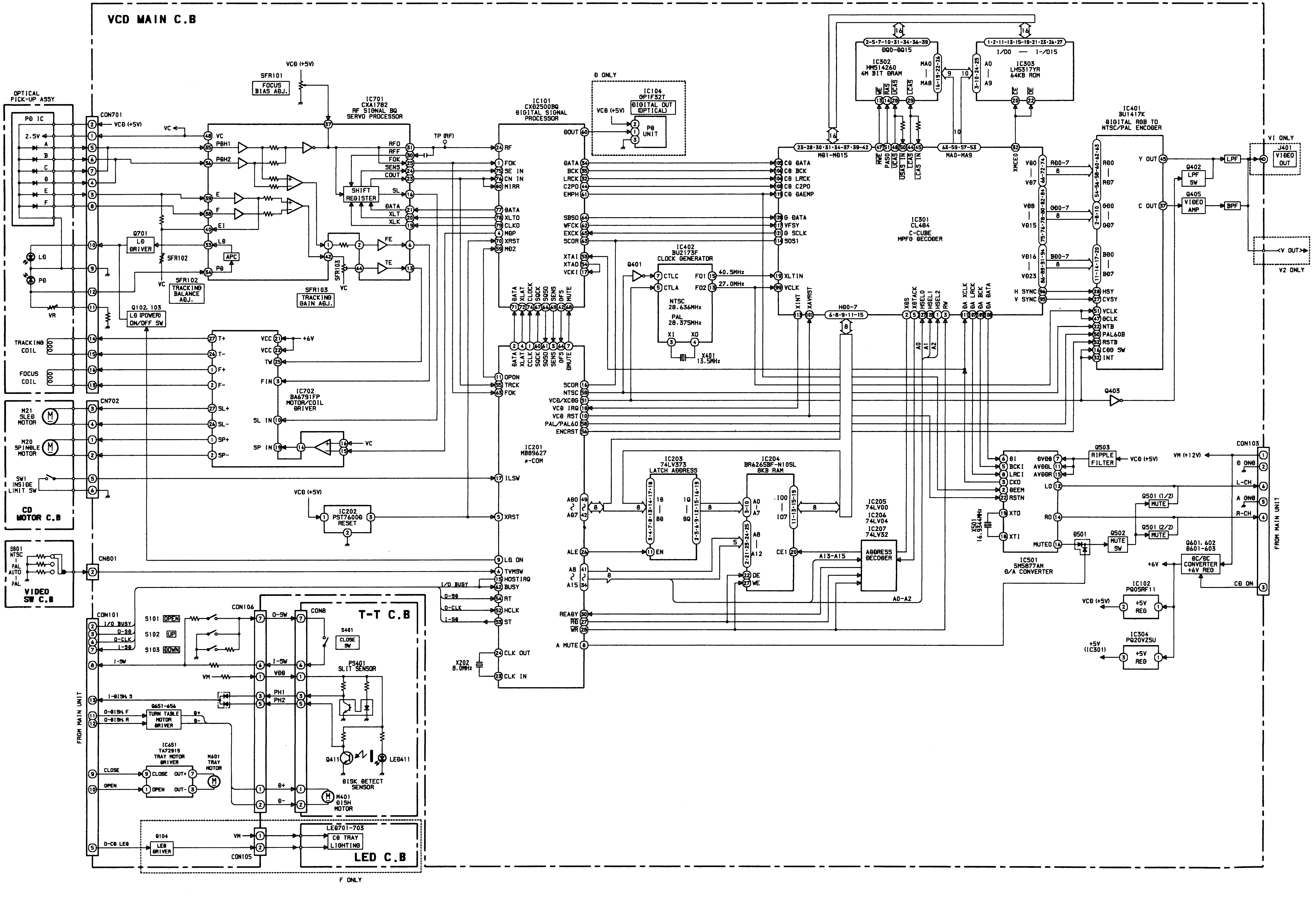
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



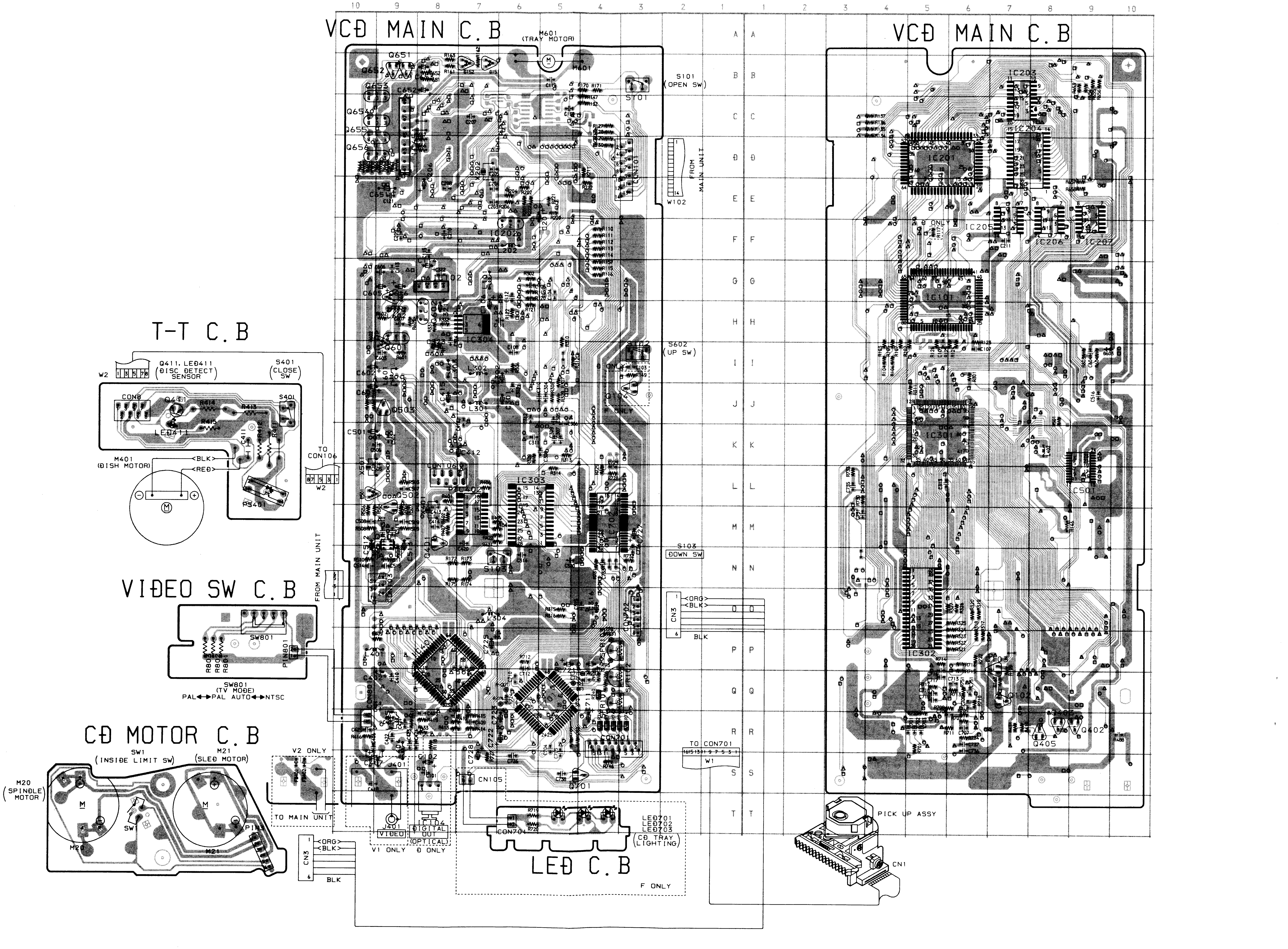
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法 / Diamensions (mm) 外形 / Form	L	W	t	抵抗コード : A Resistor Code : A
1/16W	1608	5%	CJ	 L W t	1.6	0.8	0.45	108
1/10W	2125	5%	CJ		2	1.25	0.45	118
1/8W	3216	5%	CJ		3.2	1.6	0.55	128

BLOCK DIAGRAM


VCD MAIN C.B
OPTICAL PICK-UP ASSY
PD IC
LD
PD
VR
TRACKING COIL
FOCUS COIL
CN701
CN702
M21 SLED MOTOR
M20 SPINDLE MOTOR
SW1 INSIDE LIMIT SW
CD MOTOR C.B
S801 NTSC PAL AUTO PAL
VIDEO SW C.B
CN801
SFR101 FOCUS BIAS ADJ.
IC701 CXA1782 RF SIGNAL DQ SERVO PROCESSOR
SHIFT REGISTER
APC
Q701 LD DRIVER
SFR102
SFR102 TRACKING BALANCE ADJ.
SFR103 TRACKING GAIN ADJ.
Q102, 103 LD (POWER) ON/OFF SW
IC702 BA6791FP MOTOR/COIL DRIVER
TP (RF)
IC101 CXD2500BQ DIGITAL SIGNAL PROCESSOR
D ONLY
IC104 GP1F32T DIGITAL OUT (OPTICAL)
PD UNIT
IC201 MB89627 μ-COM
IC202 PST7600D RESET
X202 8.0MHz
IC402 BU2173F CLOCK GENERATOR
Q401
X401 13.5MHz
NTSC 28.636MHz
PAL 28.375MHz
IC302 HM514260 4M BIT DRAM
IC303 LH5317YR 64KB ROM
IC301 CL484 C-CUBE MPEG DECODER
IC401 BU1417K DIGITAL RGB TO NTSC/PAL ENCODER
Q402 LPF SW
Q405 VIDEO AMP
LPF
BPF
J401 VIDEO OUT
V1 ONLY
V2 ONLY
Y OUT
C OUT
Q403
IC203 74LV373 LATCH ADDRESS
IC204 BR6265BF-N10SL 8KB RAM
IC205 74LV00
IC206 74LV04
IC207 74LV32
ADDRESS DECODER
X501 16.9344MHz
IC501 SM5877AM D/A CONVERTER
Q503 RIPPLE FILTER
Q501 (1/2) MUTE
Q501 (2/2) MUTE
D501
Q502 MUTE SW
Q601, 602 D601-603 DC/DC CONVERTER +6V REG
IC102 PQ05RF11 +5V REG
IC304 PQ20VZ5U +5V REG
CON103
FROM MAIN UNIT
CON101
CON106
CON8
T-T C.B
S101 OPEN
S102 UP
S103 DOWN
S401 CLOSE SW
PS401 SLIT SENSOR
Q651-654 TURN TABLE MOTOR DRIVER
IC651 TA7291S TRAY MOTOR DRIVER
M601 TRAY MOTOR
Q411
LED411
DISK DETECT SENSOR
M401 DISH MOTOR
Q104 LED DRIVER
LED701-703 CD TRAY LIGHTING
CON105
LED C.B
F ONLY

WIRING


VCD MAIN C.B
M601 (TRAY MOTOR)
S101 (OPEN SW)
FROM MAIN UNIT
W102
S602 (UP SW)
S103 DOWN SW
F ONLY
CN3
<ORG>
<BLK>
BLK
TO CON701
W1
PICK UP ASSY
CN1
T-T C.B
W2
Q411, LED411 (DISC DETECT SENSOR)
S401 (CLOSE SW)
M401 (DISH MOTOR)
<BLK>
<RED>
TO CON106
W2
PS401
VIDEO SW C.B
SW801
PIN801
SW801 (TV MODE)
PAL◄►PAL AUTO◄►NTSC
FROM MAIN UNIT
CD MOTOR C.B
SW1 (INSIDE LIMIT SW)
M21 (SLED MOTOR)
M20 (SPINDLE MOTOR)
V2 ONLY
TO MAIN UNIT
J401
VIDEO
V1 ONLY
IC104
DIGITAL OUT (OPTICAL)
D ONLY
CN105
CON704
LED701
LED702
LED703
(CD TRAY LIGHTING)
LED C.B
F ONLY
IC201
IC202
IC203
IC204
IC205
IC206
IC207
IC101
IC301
IC302
IC303
IC304
IC401
IC501
IC701
Q401
Q402
Q405
Q701
CON101
CON102
CON103
CON106
CON701
A
B
C
D
E
F
G
H
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J
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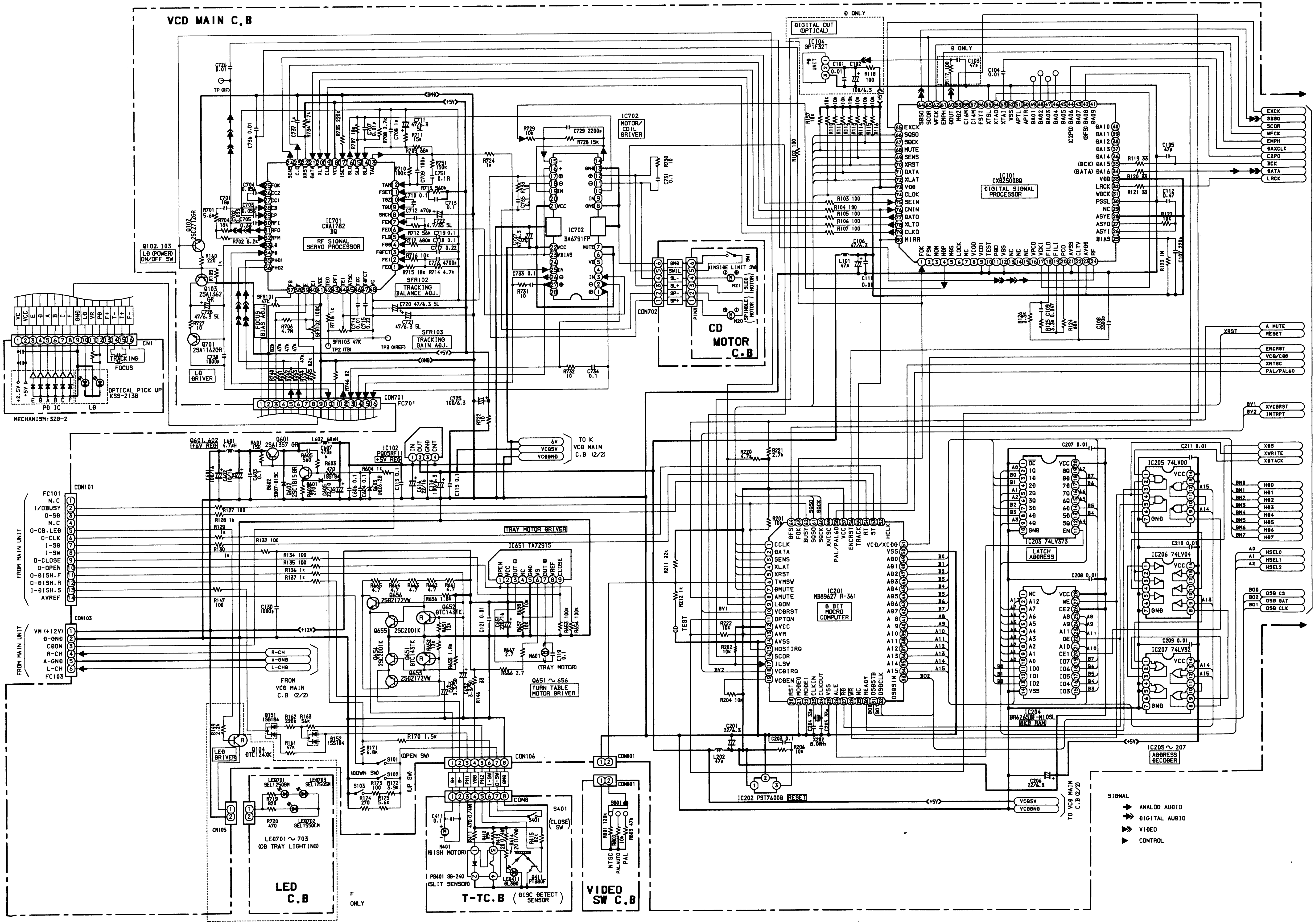
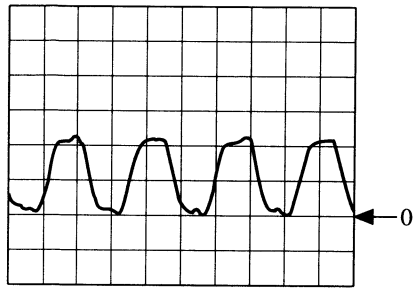
SCHEMATIC DIAGRAM-1

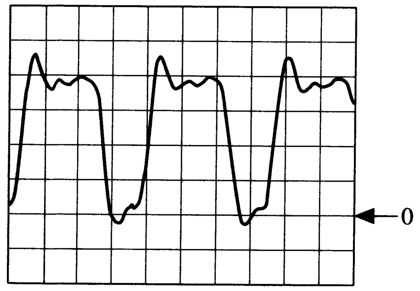

VCD MAIN C.B
IC701 CXA1782BQ RF SIGNAL SERVO PROCESSOR
IC702 BA6791FP
IC702 MOTOR/COIL DRIVER
IC101 CXD2500BQ DIGITAL SIGNAL PROCESSOR
IC104 GP1F32T
DIGITAL OUT (OPTICAL)
D ONLY
SFR101 FOCUS BIAS ADJ.
SFR102 TRACKING BALANCE ADJ.
SFR103 TRACKING GAIN ADJ.
Q102, 103 LD POWER ON/OFF SW
LD DRIVER
OPTICAL PICK UP KSS-213B
MECHANISM:3ZG-2
CN1
CON701
FC701
CD MOTOR C.B
SLED MOTOR
SPINDLE MOTOR
INSIDE LIMIT SW
CON702
IC102 PQ05RF11 +5V REG
Q401, 402 +6V REG
TO K VCD MAIN C.B (2/2)
CON101
FC101
FROM MAIN UNIT
CON103
FC103
FROM VCD MAIN C.B (2/2)
TRAY MOTOR DRIVER
IC651 TA7291S
Q651 ~ 656 TURN TABLE MOTOR DRIVER
IC201 MB89627 R-361 8 BIT MICRO COMPUTER
IC203 74LV373 LATCH ADDRESS
IC204 BR6265BF-N10SL SRAM
IC205 74LV00
IC206 74LV04
IC207 74LV32
IC205 ~ 207 ADDRESS DECODER
IC202 PST7600D RESET
X202 8.0MHz
LED C.B
LED701 ~ 703 (CD TRAY LIGHTING)
LED DRIVER
CN105
CON106
T-TC.B (DISC DETECT SENSOR)
M401 (DISH MOTOR)
PS401 SG-240 (SLIT SENSOR)
S401 (CLOSE SW)
(OPEN SW)
(DOWN SW)
UP SW
VIDEO SW C.B
CON801
NTSC PAL/AUTO PAL
TO VCD MAIN C.B (2/2)
TO/FROM VCD MAIN C.B (2/2)
F ONLY
SIGNAL
ANALOG AUDIO
DIGITAL AUDIO
VIDEO
CONTROL

WAVE FORM

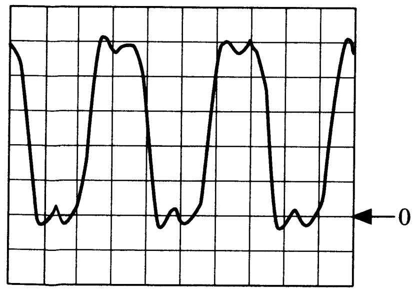
① IC301 Pin ⑲ (XTLIN) VOLT/DIV: 1V
40.5MHz TIME/DIV: 10nS
VCD PLAY
TV MODE • NTSC
• PAL
• PAL AUTO



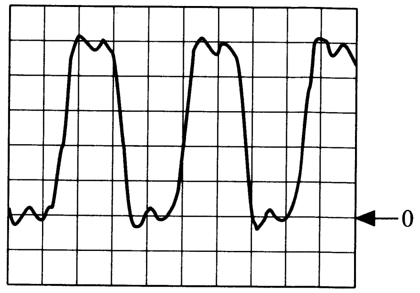
② IC301 Pin (99) (VCLK) VOLT/DIV: 1V
27MHz±1350Hz TIME/DIV: 10nS
VCD PLAY
TV MODE • NTSC
• PAL
• PAL AUTO



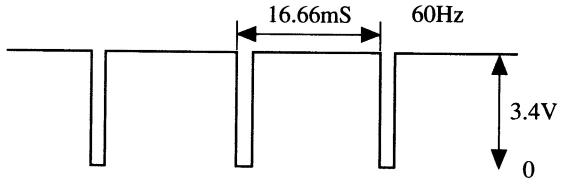
28.375MHz VOLT/DIV: 1V
CDG PLAY TIME/DIV: 10nS
TV MODE • PAL
• PAL AUTO



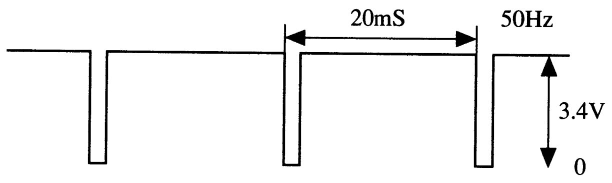
28.6363MHz VOLT/DIV: 1V
CDG PLAY TIME/DIV: 10nS
TV MODE • NTSC



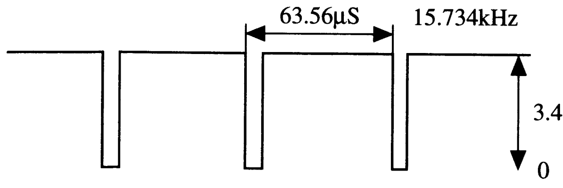
③ IC301 Pin (95) (V SYNC)
VCD, CDG PLAY
TV MODE: • NTSC
• PAL AUTO



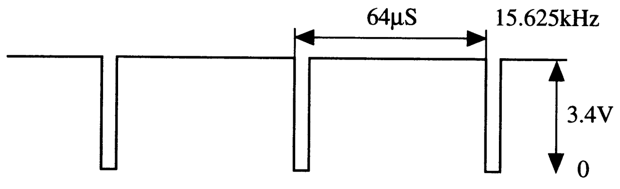
VCD, CDG PLAY
TV MODE: • PAL



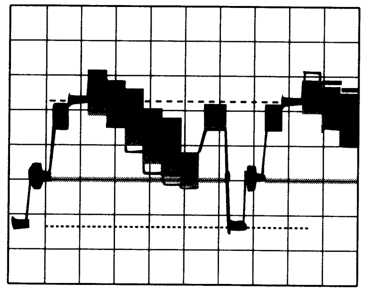
④ IC301 Pin (96) (H SYNC)
VCD, CDG PLAY
TV MODE: • NTSC
• PAL AUTO



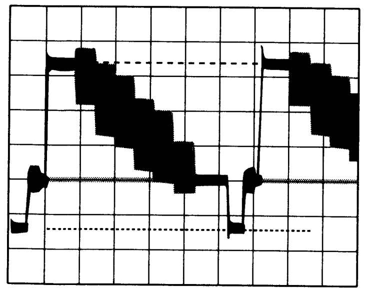
VCD, CDG PLAY
TV MODE: • PAL



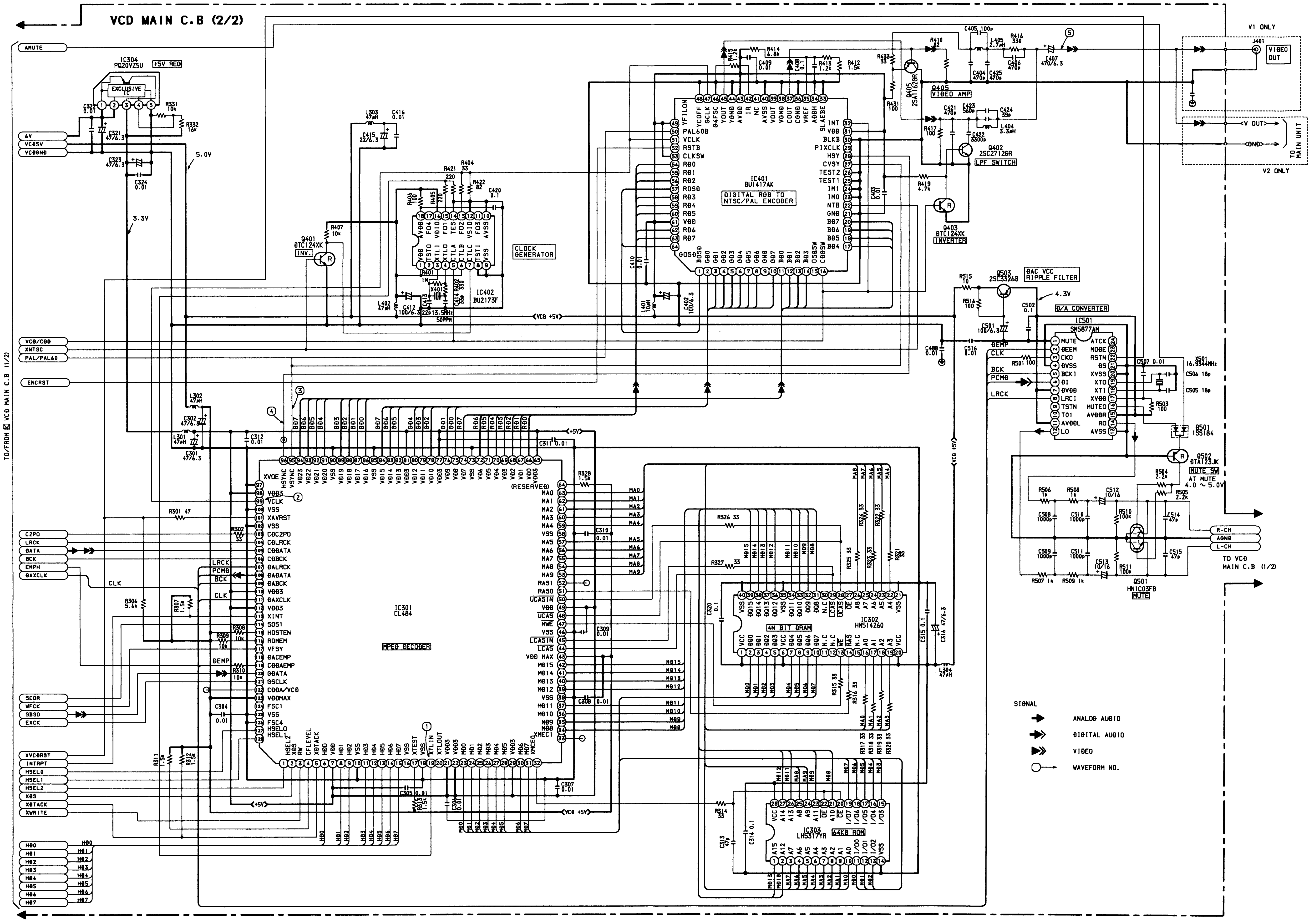
⑤ VIDEO OUT VOLT/DIV: 200mV
C407 ⊖ side TIME/DIV: 10μS
CDG PLAY: CD-T03 TRACK2
TV MODE: • NTSC



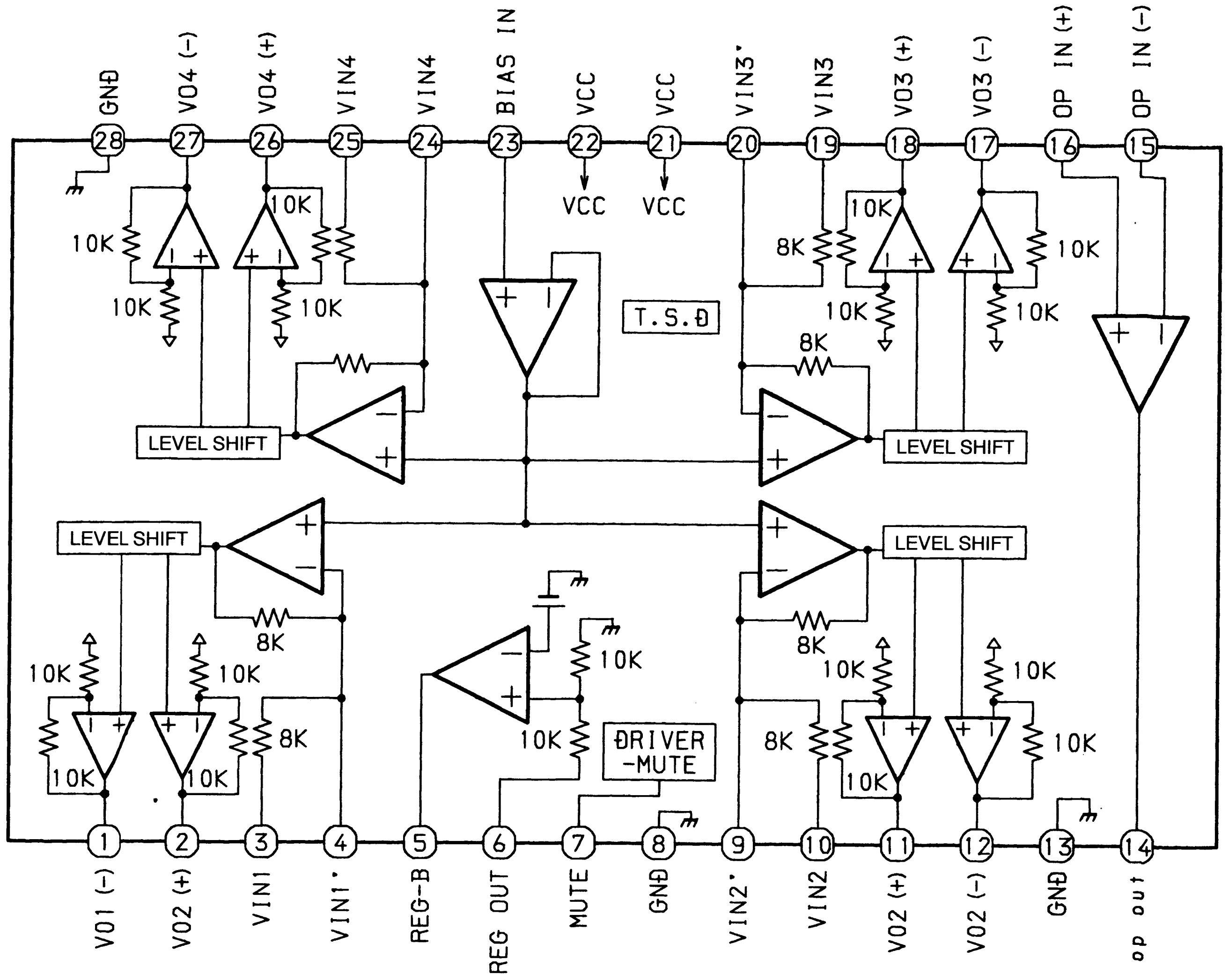
VCD PLAY: CD-T05 TRACK4 VOLT/DIV: 200mV
TV MODE: • NTSC TIME/DIV: 10μS



SCHEMATIC DIAGRAM-2


VCD MAIN C.B (2/2)
TO/FROM Ⓚ VCD MAIN C.B (1/2)
AMUTE
6V
VCD5V
VCDGND
VCD/CDD
XNTSC
PAL/PAL60
ENCRST
C2PO
LRCK
DATA
BCK
EMPH
DAXCLK
SCOR
WFCK
SBSO
EXCK
XVCDRST
INTRPT
HSEL0
HSEL1
HSEL2
XDS
XDTACK
XWRITE
HD0
HD1
HD2
HD3
HD4
HD5
HD6
HD7
IC304
PQ20VZ5U
+5V REG
EXCLUSIVE IC
5.0V
3.3V
IC401
BU1417AK
DIGITAL RGB TO NTSC/PAL ENCODER
IC402
BU2173F
CLOCK GENERATOR
Q401
DTC124XK
INV.
X401
13.5MHz
50PPM
Q405
2SA1162GR
VIDEO AMP
Q402
2SC2712GR
LPF SWITCH
Q403
DTC124XK
INVERTER
V1 ONLY
J401
VIDEO OUT
V OUT
GND
TO MAIN UNIT
V2 ONLY
Q503
2SC3326B
DAC VCC RIPPLE FILTER
4.3V
D/A CONVERTER
IC501
SM5877AM
X501
16.9344MHz
D501
1SS184
Q502
DTA123JK
MUTE SW
AT MUTE
4.0 ～ 5.0V
Q501
HN1C03FB
MUTE
R-CH
AGND
L-CH
TO VCD
MAIN C.B (1/2)
IC301
CL484
MPEG DECODER
IC302
HM514260
4M BIT DRAM
IC303
LH5317YR
64KB ROM
<VCD +5V>
<+5V>
SIGNAL
ANALOG AUDIO
DIGITAL AUDIO
VIDEO
WAVEFORM NO.

IC BLOCK DIAGRAM
IC, BA6791FP


GND
VO4 (-)
VO4 (+)
VIN4
VIN4
BIAS IN
VCC
VCC
VIN3'
VIN3
VO3 (+)
VO3 (-)
OP IN (+)
OP IN (-)
28
27
26
25
24
23
22
21
20
19
18
17
16
15
VCC
VCC
10K
8K
T.S.D
LEVEL SHIFT
LEVEL SHIFT
LEVEL SHIFT
LEVEL SHIFT
DRIVER
-MUTE
1
2
3
4
5
6
7
8
9
10
11
12
13
14
VO1 (-)
VO2 (+)
VIN1
VIN1'
REG-B
REG OUT
MUTE
GND
VIN2'
VIN2
VO2 (+)
VO2 (-)
GND
op out

共通部分は、下記のページを参照して下さい。
Refer to the following pages for the common section.

■ IC DESCRIPTION
CXA1782BQ.. 24ページ参照
See page 28

■ IC BLOCK DIAGRAM
TA7291S 23ページ参照
See page 23

■ MECHANICAL EXPLODED VIEW/PARTS LIST
40ページ参照
See page 40

IC DESCRIPTION
IC, CXD2500BQ

端子番号	端子名称	I/O	機　能　説　明
1	FOK	I	フォーカスOK入力端子。SENS出力と、サーボ・オートシーケンサに用いる。
2	FSW	O	スピンドルモータの出力フィルタ切り換え出力。
3	MON	O	スピンドルモータのON-OFFコントロール出力。
4	MDP	O	スピンドルモータのサーボ制御。
5	MDS	O	スピンドルモータのサーボ制御。
6	LOCK	O	GFSを、460Hzでサンプリングし、GFSが“H”の時H出力。8回連続“L”の場合“L”出力。
7	NC	—	未使用。
8	VCOO	O	アナログEFM PLL用発振回路出力。
9	VCOI	I	アナログEFM PLL用発振回路入力。fLOCK=8.6436MHz
10	TEST	I	TEST用端子通常GND。
11	PDO	O	アナログEFM PLL用チャージポンプ出力。
12	VSS	—	GND
13	NC	—	未使用。
14	NC	—	未使用。
15	NC	—	未使用。
16	VPCO	O	バリピッチ用PLLチャージポンプ出力。
17	VCKI	I	バリピッチ用外付VCOからの、クロック入力。fc center=16.9344MHz
18	FILO	O	マスターPLL用 (スレーブ=デジタルPLL) フィルター出力。
19	FILI	I	マスターPLL用フィルター入力。
20	PCO	O	マスターPLL用チャージポンプ出力。
21	AVSS	—	アナログGND。
22	CLTV	I	マスター用VCOコントロール電圧入力。
23	AVDD	—	アナログ電源。(+3.5V)
24	RF	I	EFM信号入力。
25	BIAS	I	アシンメトリー回路定電流入力。
26	ASYI	I	アシンメトリーコンパレート電圧入力。
27	ASYO	O	EFMフルスイング出力 (L=VSS, H=VDD)
28	ASYE	I	L: アシンメトリー回路OFF H: アシンメトリー回路ON。
29	NC	—	未使用。
30	PSSL	I	オーディオデータ出力モード切換入力。“L”でシリアル出力“H”でパラレル出力。
31	WDCK	O	48ビットスロット用D/Aインターフェース。ワードクロック f=2Fs
32	LRCK	O	48ビットスロット用D/Aインターフェース。LRクロック f=Fs
33	VDD		電源 (+3.5V)。
34	S DATA	O	PSSL=“H”の時DA16 (MSB) 出力。PSSL=“L”の時48ビットスロットのシリアルデータ。(2s’COMP, MSBファースト)
35	BCLK	O	PSSL=“H”の時DA15出力。PSSL=“L”の時48ビットスロットのビットクロック。
36	NC	O	PSSL=“H”の時DA14出力。PSSL=“L”の時64ビットスロットのシリアルデータ。(2s’COMP, MSBファースト)

端子番号	端子名称	I/O	機　能　説　明
37	NC	O	PSSL= “H” の時DA13出力。PSSL= “L” の時64ビットスロットのビットクロック。
38	NC	O	PSSL= “H” の時DA12出力。PSSL= “L” の時64ビットスロットのLRクロック。
39	GTOP	O	PSSL= “H” の時DA11出力。PSSL= “L” の時GTOP出力。
40	XUGF	O	PSSL= “H” の時DA10出力。PSSL= “L” の時XUGF出力。
41	XPLCK	O	PSSL= “H” の時DA09出力。PSSL= “L” の時XPLCK出力。
42	GFS	O	PSSL= “H” の時DA08出力。PSSL= “L” の時GFS出力。
43	RFCK	O	PSSL= “H” の時DA07出力。PSSL= “L” の時RFCK出力。
44	C2PO	O	PSSL= “H” の時DA06出力。PSSL= “L” の時C2P0出力。
45	XRAOF	O	PSSL= “H” の時DA05出力。PSSL= “L” の時XRAOF出力。
46	MNT3	O	PSSL= “H” の時DA04出力。PSSL= “L” の時MNT3出力。
47	MNT2	O	PSSL= “H” の時DA03出力。PSSL= “L” の時MNT2出力。
48	MNT1	O	PSSL= “H” の時DA02出力。PSSL= “L” の時MNT1出力。
49	MNT0	O	PSSL= “H” の時DA01出力。PSSL= “L” の時MNT0出力。
50	APTR	O	アパーチャー補正用コントロール出力。Rchの時 “H” 。
51	APTL	O	アパーチャー補正用コントロール出力。Lchの時 “H” 。
52	VSS	—	GND
53	XTAI	I	16.9344MHzのXtal発振回路入力。又は33.8688MHz入力。
54	XTAO	O	16.9344MHzのXtal発振回路出力。
55	XTSL	I	Xtal選択入力端子。Xtalが、16.9344MHzの時 “L” 。33.8688MHzの時 “H” にする。
56	FSTT	O	53, 54端子の、2/3分周出力。バリピッチで変化しない。
57	C4M	O	4.2336MHz出力。バリピッチされた時、同時に変化する。
58	C16M	O	16.2336MHz出力。バリピッチされた時、同時に変化する。
59	MD2	I	Digital-Out ON/OFFコントロール、“H” でON、“L” でOFFする。
60	DOUT	O	Digital-Out出力端子。
61	EMPH	O	再生Discがエンファシス有りの時 “H” 出力。無しの時 “L” 出力。
62	WFCK	O	WFCK (Write Frame Clock) 出力。
63	SCOR	O	サブコードシンクS0かS1どちらか検出された時 “H” 出力。
64	SBSO	O	SubP～Wのシリアル出力。
65	EXCK	I	SBSOリード･アウト用、クロック入力。
66	SQSO	O	SubQ 8bit及びPCMピーク、レベルデータ16bit出力。
67	SQCK	I	SQSOリード･アウト用、クロック入力。
68	MUTE	I	“H” でミュート。“L” で解除。
69	SENS	O	SENS出力。CPUへ出力。
70	XRST	I	システムリセット。“L” でリセット。
71	DATA	I	CPUより、シリアルデータ入力。
72	XLAT	I	CPUより、ラッチ入力。立下がりで、シリアルデータをラッチ。
73	VDD	—	電源 (+3.5V)
74	CLOK	I	CPUより、シリアルデータ転送クロック入力。
75	SEIN	I	SSPより、センサ入力。

端子番号	端子名称	I/O	機 能 説 明
76	CNIN	I	トラックジャンプ数カウント信号入力。
77	DATO	O	SSPへシリアルデータ出力。
78	XLTO	O	SSPへシリアルデータラッチ出力。立下がりでラッチ。
79	CLKO	O	SSPへシリアルデータ転送クロック出力。
80	MIRR	I	ミラー信号入力。オートシーケンサで、128トラック以上のジャンプに使う。

IC, SM5877AM

端子番号	端子名称	I/O	機能説明
1	MUTE	I	MODE＝H: ソフトミュートON/OFF端子。(Hでミュート) MODE＝L: アッテネータレベルDOWN/UP端子。(HでDOWN)
2	DEEM	I	ディエンファシスON/OFF端子。(HでディエンファシスON)
3	CKO	O	発振部クロック出力。(16.9344MHz)
4	DVSS	—	ディジタルVSS端子。
5	BCKI	I	ビットクロック入力端子。
6	DI	I	シリアルデータ入力端子。
7	DVDD	—	ディジタルVDD端子。
8	LRCI	I	サンプルレートクロック (fs) 入力端子。(H＝Lch/L＝Rch)
9	TSTN	I	LSIのテスト用入力。(Lでテスト)
10	TO1	O	テスト用出力1。(通常時Lowレベル出力)
11	AVDDL	—	アナログVDD端子。(L-ch用)
12	LO	O	L-chアナログ出力端子。
13	AVSS	—	アナログVSS端子。
14	RO	O	R-chアナログ出力端子。
15	AVDDR	—	アナログVDD端子。(R-ch用)
16	MUTEO	O	インフィニティ・ゼロ検出出力。
17	XVDD	—	X'tal系VDD端子。
18	XTI	I	X'tal発振端子。(又は、外部クロック入力端子16.9344MHz)
19	XTO	O	X'tal発振端子。
20	XVSS	—	X'tal系VSS端子。
21	DS	I	倍速／ノーマル再生モード選択。(Hで倍速再生)
22	RSTN	I	リセット端子。(Lでリセット)
23	MODE	I	ソフトミュート／アッテネータモード選択。(Hでソフトミュートモード)
24	ATCK	I	アッテネータレベル設定クロック。(MODE＝Hの時は、無視)

IC, MB89627

端子番号	端子名称	I/O	機　能　説　明
1	CCLK	O	SSP、DSPコントロールクロック。
2	DATA	O	SSP、DSPコントロールクデータ。
3	SENS	I	SSP、DSPステータス。
4	XLAT	O	SSP、DSPコマンドラッチ。
5	XRST	O	SSP、DSPリセット。
6	TVMSW	O	OFF／NTSC／PAL／PAL60 AUTO／AUTO／TEST。 *注参照。
7	DMUTE	O	ディジタルミュート。
8	AMUTE	O	アナログミュート。
9	LDON	O	サーボ基板電源ON。
10	VCDRST	O	ビデオCDリセット。
11	OPTON	O	光学ディジタル出力ON。
12	VCC	—	A／DコンバータVcc。
13	VCC	—	A／DコンバータVref。
14	VSS	—	A／DコンバータVss。
15	HOSTIRQ	I	ホストCPUインタラプトリクエスト。
16	SCOR	I	サブコードシンク0(サブコードIRQ)。
17	ILSW	I	内側リミットスイッチ。
18	VCDIRQ	I	ビデオCDデコーダインタラプトリクエスト。
19	N. C.	—	未使用。
20	RST	I	CPUリセット。
21	MODE0	I	CPUモード(プルダウン)。
22	MODE1	I	CPUモード(プルダウン)。
23	CLKIN	O	8 MHz システムクロック。
24	CLKOUT	I	8 MHz システムクロック。
25	VSS	—	GND。
26	ALE	O	アドレスラッチストローブ。
27	RD	O	データリードストローブ。
28	WR	O	データライトストローブ。
29	CLK	O	クロック出力。
30	READY	I	ビデオCDデコーダレディ。
31	OSDCS	O	OSDCイネーブル。
32	OSDCLK	O	OSDCデータクロック。
33	OSDSIN	O	OSDCデータ。
34～41	A8～A15	O	アドレスバス8～15。
42～49	AD0～AD7	I/O	アドレスバス0～7。
50	VSS	—	GND。
51	VCD/CDG	O	ビデオCD／CDGスイッチ。
52	HCLK	I	ホストCPUコントロールクロック。
53	ST	O	ホストCPU送信データ。
54	RT	I	ホストCPU受信データ。
55	TRACK	I	トラバースカウンタ。

端子番号	端子名称	I/O	機　能　説　明
56	ENCRST	O	ビデオエンコーダリセット。
57	DVCC	—	DVCC。
58	PAL/PAL60	O	PAL／PAL60スイッチ。
59	XNTSC	O	PAL／NTSCスイッチ。
60	SQCK	O	サブコードQリードクロック。
61	SQSO	I	サブコードQシリアルデータ。
62	BUSY	I/O	ホストCPUインターフェースビジー信号。
63	FOK	I	フォーカスサーボOK検出。
64	GFS	I	フレームシンク検出

NOTE:

- マイコンのアナログ入力 (TVMSW:6ピン) を下記の通り7分割しコントロールします。
- 出力は、PAL／PAL60 (58ピン)、XNTSC (59ピン) の2つのポートとIC301 (CL484) に対してのコマンド設定 (Set Video Format) です。

<table>
<tr><th colspan="2">TVMSW(6ピン)</th><th rowspan="2">DISCのエンコード方式</th><th rowspan="2">TV出力モード</th><th rowspan="2">PAL/PAL60
(58ピン)</th><th rowspan="2">XNTSC
(59ピン)</th><th rowspan="2">Set Video Format</th></tr>
<tr><th>電圧(V)</th><th>モード</th></tr>
<tr><td>5.00</td><td rowspan="2">OFF</td><td rowspan="2">—</td><td rowspan="2" colspan="4">未使用(NTSC出力モード)</td></tr>
<tr><td rowspan="2">4.58</td></tr>
<tr><td rowspan="2">NTSC</td><td rowspan="2">—</td><td rowspan="2">NTSC</td><td rowspan="2">H</td><td rowspan="2">L</td><td rowspan="2">NTSC</td></tr>
<tr><td rowspan="2">3.75</td></tr>
<tr><td rowspan="2">PAL</td><td rowspan="2">—</td><td rowspan="2">PAL</td><td rowspan="2">H</td><td rowspan="2">H</td><td rowspan="2">PAL</td></tr>
<tr><td rowspan="2">2.92</td></tr>
<tr><td rowspan="2">PAL60</td><td rowspan="2">—</td><td rowspan="2">PAL60</td><td rowspan="2">L</td><td rowspan="2">H</td><td rowspan="2">NTSC</td></tr>
<tr><td rowspan="2">2.08</td></tr>
<tr><td rowspan="4">PAL AUTO</td><td rowspan="2">NTSC</td><td rowspan="2">PAL60</td><td rowspan="2">L</td><td rowspan="2">H</td><td rowspan="2">NTSC</td></tr>
<tr><td rowspan="6">1.25</td></tr>
<tr><td rowspan="2">PAL</td><td rowspan="2">PAL</td><td rowspan="2">H</td><td rowspan="2">H</td><td rowspan="2">PAL</td></tr>
<tr></tr>
<tr><td rowspan="4">AUTO</td><td rowspan="2">NTSC</td><td rowspan="2">NTSC</td><td rowspan="2">H</td><td rowspan="2">L</td><td rowspan="2">NTSC</td></tr>
<tr></tr>
<tr><td rowspan="2">PAL</td><td rowspan="2">PAL</td><td rowspan="2">H</td><td rowspan="2">H</td><td rowspan="2">PAL</td></tr>
<tr><td rowspan="2">0.42</td></tr>
<tr><td rowspan="2">TEST</td><td rowspan="2">—</td><td rowspan="2" colspan="4">サーボ回路調整用(NTSC出力モード)</td></tr>
<tr><td>0.00</td></tr>
</table>

＊1 DISCのエンコード方式の判別は、MPEGデータのV_SIZE (1A1h／Word) から判断する。

＊2 サーボ回路調整用とは、調整時 (可変抵抗を操作中) にサーボが外れすぎるとエマージェンシー処理に入ってしまうので、その処理に入らないようにしている。

＊3 上記の他、ENCRST (56ピン) は、TV Encoderに対するリセット信号でIC401 (BU1417AK) のCDGSW、NTB、CVSY、HSY、PIXCLK、GCLK、PAL60B、VCLKの各入力ポートが変化したときにアクティブ “L” のパルスを出力する。

① CD部の基板に電源が入ったとき
② TOCを読み始めるとき
③ 上記のようなモード変化時

- TVMSW切り替え
- Video CD Discの取り替えによるエンコード方式の切り替え
- Video CD DiscとCD-DAまたはCD-Gとの取り替え

IC, BU1417AK

端子番号	端子名称	I/O	機能説明
1	BOSD	I	OSDブルーデータ入力。
2	GD0	I	グリーンデータビット0 (LSB)。
3～8	GD1～GD6	I	グリーンデータビット1～6。
9	GND	—	ディジタルGND。
10	GD7	I	グリーンデータビット7 (MSB)。
11	BD0	I	ブルーデータビット0 (LSB)。
12～14	BD1～BD3	I	ブルーデータビット1～3。
15	OSDSW	I	OSD入力イネーブル。
16	CDGSWB	I	Video-C／CD-G選択。
17～19	BD4～BD6	I	ブルーデータビット4～6。
20	BD7	I	ブルーデータビット7 (MSB)。
21	GND	—	ディジタルGND。
22	NTB	I	Video-NTSC／PAL選択。
23、24	IM0、IM1	I	入力モードセットビット0、1。
25、26	TEST1、TEST2	I	通常GNDへプルダウン。
27	CVSY	I	C-SYNC又はV-SYNC入力。
28	HSY	I	H-SYNC入力。
29	PIXCLK	O	内部クロックの1／2周波数。
30	BLKB	I	データブランキング入力イネーブル。
31	VDD	—	ディジタルVDD。
32	INT	I	インターレース／ノンインターレース。
33	SLABEB	I	マスター／スレーブモードセット。
34	ADDH	I	ノンインターレース時1ライン追加。
35	VREF	I	基準電圧 (1.29 V)。
36	CGND	—	クロマ出力GND。
37	COUT	O	クロマ出力。
38	VGND	—	コンポジット出力GND。
39	VOUT	O	コンポジット出力。
40	AVSS	—	アナログ (DAC、 VREF) GND。
41	NC	—	未使用。
42	IR	I	基準抵抗 (1.2 K)。
43	AVDD	—	アナログ (DAC、 VREF) VDD。
44	YGND	—	ルミナンス出力GND。
45	YOUT	O	ルミナンス出力。
46	G4FSC	I	GNDへプルダウン。
47	GCLK	I	CD-Gへのビデオクロック入力。
48	YCOFF	I	DAC (YOUT、COUT) OFF。
49	YFILON	I	GNDへプルダウン。
50	PAL60B	I	NTB = HIGH時PAL60 ON.
51	VCLK	I	VCDへのビデオクロック入力。
52	RSTB	I	ロジック部イニシアルリセット。

端子番号	端子名称	I/O	機　能　説　明
53	CLKSW	I	入力クロックイネーブル分割。
54	RD0	I	レッドデータビット0 (LSB)。
55、56	RD1、RD2	I	レッドデータビット1、2。
57	ROSD	I	OSDレッドデータ入力。
58～60	RD3～RD5	I	レッドデータビット3～5。
61	VDD	—	ディジタルGND。
62	RD6、RD7	I	レッドデータビット6。
63	GOSD	I	レッドデータビット7。

IC, CL484

端子番号	端子名称	I/O	機　能　説　明
1	HSEL2	I	ホスト・アドレス・バス。
2	-DS	I	データ・ストローブ。
3	R/-W	I	リード/ライト。
4	CFLEVEL	O	符合化データFIFOレベルステータス。オープンドレイン。
5	-DACK	O	ホスト・データ・アクノリッジ。オープンドレイン。
6	HD0	I/O	ホスト・データ・バス。
7	VDD3	—	電源。3.3Vで使用。
8、9	HD1、HD2	I/O	ホスト・データ・バス。
10	VSS	—	グランド。
11～15	HD3～HD7	I/O	ホスト・データ・バス。。
16	VSS	—	グランド。
17	-TEST	I	テスト端子。通常はHighに固定。
18	VSS	—	グランド。
19	XTL IN	I	グローバルロック　40.5MHz。
20	XTL OUT	O	グローバルロック　40.5MHz。
21、22	VDD3	—	電源。3.3Vで使用。
23～28	MD0～MD5	I/O	メモリ・データ・バス。
29	VDD3	—	電源。3.3Vで使用。
30、31	MD6、MD7	I/O	メモリ・データ・バス。
32、33	-MCE0、-MCE1	O	チップ・イネーブル。
34～37	MD8～MD11	I/O	メモリ・データ・バス。
38	VSS	—	グランド。
39～42	MD12～MD15	I/O	メモリ・データ・バス。
43	VDDMAX	—	電源。5.0Vで使用。
44	-LCAS	O	下位カラム・アドレス・ストローブ。
45	-LCASIN	I	下位データ・ラッチ・イネーブル。
46	VSS	—	グランド。
47	-MWE	O	ライト・イネーブル。
48	-UCAS	O	上位カラム・アドレス・ストローブ。
49	VDD3	—	電源。3.3Vで使用。
50	-UCASIN	I	上位データ・ラッチ・イネーブル。
51、52	RAS0、RAS1	O	ロー・アドレス・ストローブ。
53～57	MA9～MA5	O	メモリ・アドレス・バス。
58	VSS	—	グランド。
59～63	MA4～MA0	O	メモリ・アドレス・バス。
64	RESERVED	—	リザーブ。
65	VDD3	—	電源。3.3Vで使用。
66～72	VD0～VD6	O	ピクセル・データ・バス。RGBまたは、YCbCrフォーマット。
73	VSS	—	グランド。
74～76	VD7～VD9	O	ピクセル・データ・バス。RGBまたは、YCbCrフォーマット。
77	VDD3	—	電源。3.3Vで使用。

端子番号	端子名称	I/O	機能説明
78～80	VD10～VD12	O	ピクセル・データ・バス。RGBまたは、YCbCrフォーマット。
81	VDD3		電源。3.3Vで使用。
82～84	VD13～VD15	O	ピクセル・データ・バス。RGBまたは、YCbCrフォーマット。
85	VSS	—	グランド。
86～89	VD16～VD19	O	ピクセル・データ・バス。RGBまたは、YCbCrフォーマット。
90	VSS	—	グランド。
91～94	VD20～VD23	O	ピクセル・データ・バス。RGBまたは、YCbCrフォーマット。
95	-VSYNC or CSY	I/O	垂直同期信号。
96	-HSYNC	I/O	水平同期信号。
97	-VOE	I	ビデオ出力イネーブル。
98	VDD3	—	電源。3.3Vで使用。
99	VCLK	I/O	ビデオクロック。
100	VSS	—	グランド。
101	-RESET	I	ハードウェアリセット。
102	VSS	—	グランド。
103	CD-C2PO	I	データエラー。CD-ROMデータ入力時に使用。
104	CD-LRCK	I	LRクロック。
105	CD-DATA	I	CD-DSPからのシリアル・データ入力。
106	CD-BCK	I	CDデコーダのビット・クロック。
107	DA-LRCK	O	LRクロック。
108	DA-DATA	O	ビット・シリアル・オーディオサンプル信号。
109	DA-BCK	O	オーディオ・ビット・クロック。
110	VDD3	—	電源。3.3Vで使用。
111	DA-XCLK	I	外部オーディオ周波数クロック。
112	VDD3	—	電源。3.3Vで使用。
113	-INT	O	割り込み要求。
114	CDG-S0S1	I	ブロック・スタートSYNC。
115	HOST_ENA	I	ホスト・イネーブル。
116	RAM_ENA	I	ブートROMイネーブル。
117	CDG-VFSY	I	フレーム・スタートまたは、コンポジットSYNC。
118	DAC_EMP	O	出力エンファシス・フラグ。
119	CDDA_EMP	I	入力エンファシス・フラグ。
120	CDG-SDATA	I	サブコード・データ。
121	CDG-SCLK	I/O	サブコード・データ・クロック。
122	CDDA/VCD	O	入力データ判別。H: CDDA。L: ビデオCD。
123	VDDMAX	I	電源。5.0Vで使用。
124	FSC1	O	126ピン (FSC4) の入力CLKを1/4分周した出力。
125	VSS	—	グランド。
126	FSC4	I	分周器用入力。
127、128	HSEL0、HSEL1	I	ホスト・アドレス・バス。

IC, BU2173AF

端子番号	端子名称	I/O	機　能　説　明
1	VDD	—	デジタルVDD。
2	TSTO	O	ノーマルモード時はオープン。(テスト時に使用)
3	XTALI	I	基準発振入力。
4	XTALO	O	基準発振出力。
5	CTRLA	I	CD-G／VCDクロック切り替え端子。
6	CTRLB	I	ノーマルモード時はHに固定。
7	CTRLC	I	CD-G PAL／NTSCクロック切り替え端子。
8	TSTI	I	ノーマルモード時はVSSに接続。(テスト時に使用)
9	VSS	—	デジタル GND。
10	AVSS	—	アナログ GND。
11	FOUT3	O	未使用 ノーマルモード時はオープン。
12	VSSIO	—	I/O GND。
13	FOUT2	O	クロック出力。(2)
14	TEST	—	テストモード設定 ノーマルモード時はVSSに接続。
15	FOUT1	O	クロック出力。(1)
16	VDDIO	—	I/O VDD。
17	FOUT4	O	クロック出力。(4)
18	AVDD	—	アナログ VDD。

IC, CXD2500BQ

Pin No.	Pin Name	I/O	Description
1	FOK	I	Focus OK input terminal. Used for SENS output and servo auto sequencer.
2	FSW	O	Spindle motor output filter selection output.
3	MON	O	Spindle motor ON-OFF control output.
4	MDP	O	Spindle motor servo control.
5	MDS	O	Spindle motor servo control.
6	LOCK	O	H output when GFS is sampled at 460 Hz and GFS is H. L output when L is continuously 8 times.
7	NC	—	Not used.
8	VCOO	O	Oscillator circuit output for analog EFM PLL.
9	VCOI	I	Oscillator circuit input for analog EFM PLL. fLOCK = 8.6436 MHz.
10	TEST	I	TEST terminal. Normally GND.
11	PDO	O	Charge pump output for analog EFM PLL.
12	VSS	—	GND.
13	NC	—	Not used.
14	NC	—	Not used.
15	NC	—	Not used.
16	VPCO	O	Charge pump output for vari-pitch PLL.
17	VCKI	I	Clock input from external VCO for vari-pitch. fc center = 16.9344 MHz.
18	FILO	O	Filter output for master PLL (slave = digital PLL).
19	FILI	I	Filter input for master PLL.
20	PCO	O	Charge pump output for
21	AVSS	—	Analog GND.
22	CLTV	I	VCO control voltage input for master.
23	AVDD	—	Analog power supply. (+3.5 V)
24	RF	I	EFM signal input.
25	BIAS	I	Asymmetry circuit constant current input.
26	ASYI	I	Asymmetry comparate voltage input.
27	ASYO	O	EFM full swing output (L = Vss, H = VDD.)
28	ASYE	I	L: asymmetry circuit OFF, H: asymmetry circuit ON.
29	NC	—	Not used.
30	PSSL	I	Audio data output mode selection input. Serial output at L, parallel output at H.
31	WDCK	O	D/A interface for 48-bit slot. Word clock f = 2 Fs.
32	LRCK	O	D/A interface for 48-bit slot. LR clock f = Fs.
33	VDD		Power supply. (+3.5 V)
34	S DATA	O	DA16 (MSB) output when PSSL = H. 48-bit slot serial data when PSSL = L. (2's COMP, MSB first).
35	BCLK	O	DA15 output when PSSL = H. 48-bit slot bit clock when PSSL = L.
36	NC	O	DA14 output when PSSL = H. 64-bit slot serial data when PSSL = L. (2's COMP, MSB first).
37	NC	O	DA13 output when PSSL = H. 64-bit slot bit clock when PSSL = L.
38	NC	O	DA12 output when PSSL = H. 64-bit slot LR clock when PSSL = L.

Pin No.	Pin Name	I/O	Description
39	GTOP	O	DA11 output when PSSL = H. GTOP output when PSSL = L.
40	XUGF	O	DA10 output when PSSL = H. XUGF output when PSSL = L.
41	XPLCK	O	DA09 output when PSSL = H. XPLCK output when PSSL = L.
42	GFS	O	DA08 output when PSSL = H. GFS output when PSSL = L.
43	RFCK	O	DA07 output when PSSL = H. RFCK output when PSSL = L.
44	C2PO	O	DA06 output when PSSL = H. C2P0 output when PSSL = L.
45	XRAOF	O	DA05 output when PSSL = H. XRAOFoutput when PSSL = L.
46	MNT3	O	DA04 output when PSSL = H. MNT3 output when PSSL = L.
47	MNT2	O	DA03 output when PSSL = H. MNT2 output when PSSL = L.
48	MNT1	O	DA02 output when PSSL = H. MNT1 output when PSSL = L.
49	MNT0	O	DA01 output when PSSL = H. MNT0 output when PSSL = L.
50	APTR	O	Aperture correction control output. H when R channel.
51	APTL	O	Aperture correction control output. H when L channel.
52	VSS	—	GND.
53	XTAI	I	Input to 16.9344 MHz X'tal oscillator circuit. or 33.8688 MHz input.
54	XTAO	O	16.9344 MHz X'tal oscillator output.
55	XTSL	I	X'tal selection input. L when X'tal is 16.9344 MHz. H when 33.8688 MHz.
56	FSTT	O	2/3 divider output of the pins 53 and 54. Does not change with vari-pitch.
57	C4M	O	4.2336 MHz output. When vari-pitch is performed, it changes too.
58	C16M	O	16.2336 MHz output. When vari-pitch is performed, it changes too.
59	MD2	I	Digital-out ON/OFF control. ON at H, OFF at L.
60	DOUT	O	Digital-out terminal.
61	EMPH	O	H output when the playback disc has emphasis. L output without emphasis.
62	WFCK	O	WFCK (Write Frame Clock) output.
63	SCOR	O	H output when S0 or S1 of the subcode sync is detected.
64	SBSO	O	Serial output of Sub P to W.
65	EXCK	I	Clock input for SBSO read out.
66	SQSO	O	SubQ 8-bit and PCM peak level data. 16-bit output.
67	SQCK	I	Clock input for SQSO readout.
68	MUTE	I	Mute at H. Release at L.
69	SENS	O	SENS output. Output to CPU.
70	XRST	I	System reset. Reset at L.
71	DATA	I	Serial data input from CPU.
72	XLAT	I	Latch input from CPU. Latches serial data at fall-down edge.
73	VDD	—	Power supply (+3.5 V).
74	CLOK	I	Serial data transfer clock input from CPU.
75	SEIN	I	Sensor input from SSP.
76	CNIN	I	Track jump number counted signal input.
77	DATO	O	Serial data output to SSP.
78	XLTO	O	Serial data latch output to SSP. Latches at fall-down edge.
79	CLKO	O	Serial data transfer clock output to SSP.
80	MIRR	I	Mirror signal input. Used for jump of 128 track or more at auto sequencer.

IC, SM5877AM

Pin No.	Pin Name	I/O	Description
1	MUTE	I	MODE = H: Soft mute ON/OFF terminal. (Mute at H). MODE = L: Attenuator level DOWN/UP terminal. (DOWN at H).
2	DEEM	I	De-emphasis ON/OFF terminal. (De-emphasis ON at H).
3	CKO	O	Oscillator clock output. (16.9344 MHz).
4	DVSS	—	Digital VSS terminal.
5	BCKI	I	Bit clock input terminal.
6	DI	I	Serial data input terminal.
7	DVDD	—	Digital VDD terminal.
8	LRCI	I	Sample rate clock (fs) input terminal. (H = L ch/L = R ch).
9	TSTN	I	LSI test input.
10	TO1	O	Test output 1. (Normally low level output).
11	AVDDL	—	Analog VDD terminal. (For L ch).
12	LO	O	Left channel analog output terminal.
13	AVSS	—	Analog VSS terminal.
14	RO	O	Right channel analog output terminal.
15	AVDDR	—	Analog VDD terminal. (For R ch).
16	MUTEO	O	Infinity zero detection output.
17	XVDD	—	X'tal system VDD terminal.
18	XTI	I	X'tal oscillator terminal. (Or external clock input terminal of 16.9344 MHz).
19	XTO	O	X'tal oscillator terminal.
20	XVSS	—	X'tal system VSS terminal.
21	DS	I	Double-speed/normal playback selection. (Double-speed at H).
22	RSTN	I	Reset terminal. (Reset at L).
23	MODE	I	Soft mute/Attenuator mode selection. (Soft mute at H).
24	ATCK	I	Attenuator level setup clock (Ignored when MODE = H).

IC, MB89627

Pin No.	Pin Name	I/O	Description
1	CCLK	O	SSP, DSP Control Clock.
2	DATA	O	SSP, DSP Control Data.
3	SENS	I	SSP, DSP Status.
4	XLAT	O	SSP, DSP Command Latch.
5	XRST	O	SSP, DSP Reset.
6	TVMSW	O	OFF/NTSC/PAL/PAL60/PAL AUTO/AUTO/TEST. *NOTE
7	DMUTE	O	Digital Mute.
8	AMUTE	O	Analog Mute.
9	LDON	O	Servo PCB Power on.
10	VCDRST	O	Video CD Reset.
11	OPTON	O	Optical Digital Output ON.
12	VCC	—	A/D Converter VCC.
13	VCC	—	A/D Converter VREF.
14	VSS	—	A/D Converter VSS.
15	HOSTIRQ	I	Host CPU Interrupt Request.
16	SCOR	I	Subcode Sync 0. (Subcode IRQ)
17	ILSW	I	Inter Limit Switch.
18	VCDIRQ	I	Video CD Decoder Interrupt Request.
19	N. C.	I	Not used.
20	RST	I	CPU Reset.
21	MODE0	I	CPU MODE. (Pull-down)
22	MODE1	I	CPU MODE. (Pull-down)
23	CLKIN	O	8MHz System Clock.
24	CLKOUT	I	8MHz System Clock.
25	VSS	—	GND.
26	ALE	O	Address Latch Strobe.
27	RD	O	Data Read Strobe.
28	WR	O	Data Write Strobe.
29	CLK	O	Clock out.
30	READY	I	Video CD Decoder Ready.
31	OSDCS	O	OSDC Enable.
32	OSDCLK	O	OSDC Data Clock.
33	OSDSIN	O	OSDC Data.
34-41	A8-A15	O	Address Bus 8-15.
42-49	AD0-AD7	I/O	Address/Data Bus 0-7.
50	VSS	—	GND.
51	VCD/CDG	O	Video CD/CDG Switch.
52	HCLK	I	Host CPU Control Clock.
53	ST	O	Host CPU Control Send Data.
54	RT	I	Host CPU Control Receive Data.
55	TRACK	I	Travase Counter.

Pin No.	Pin Name	I/O	Description
56	ENCRST	O	Video Encoder Reset.
57	DVCC	—	DVCC.
58	PAL/PAL60	O	PAL/PAL60 Switch.
59	XNTSC	O	PAL/NTSC Switch.
60	SQCK	O	Subcode Q Read Clock.
61	SQSO	I	Subcode Q Serial Data.
62	BUSY	I/O	Host CPU I/F Busy Signal.
63	FOK	I	Focus Servo OK Detect.
64	GFS	I	Frame Sync Detect.

Note

- Analog input (TVMSW: 6 pin) of the microprocessor is divided into 7, then controlled.
- The output are the command setting (Set Video Format) to the two ports of PAL/PAL60 (58 pin), XNTSC (59 pin) and IC301 (CL484).

TVMSW (6 pins)		DISC encoding system	TV output mode	PAL/PAL60 (58 pins)	XNTSC (59 pins)	Set Video Format
Volt (V)	Mode					
5.00	OFF	—	Not used (NTSC output mode).			
4.58	NTSC	—	NTSC	H	L	NTSC
3.75	PAL	—	PAL	H	H	PAL
2.92	PAL60	—	PAL60	L	H	NTSC
2.08	PAL AUTO	NTSC	PAL60	L	H	NTSC
		PAL	PAL	H	H	PAL
1.25	AUTO	NTSC	NTSC	H	L	NTSC
		PAL	PAL	H	H	PAL
0.42	TEST	—	For servo circuit adjustment (NTSC output mode).			
0.00						

*1 As to identification of the disc encoding system, it is identified from the V_SIZE (1A1h/word) of the MPEG data.

*2 "For servo circuit adjustment" is the process during adjustment (when variable resistor is operated by service engineer) that the microprocessor enters the emergency process routine if the servo system goes extremely out of the servo range.

*3 In addition to the above, ENCRST (56 pin) is the reset signal for TV encoder, issues the active "L" pulse when each of the input port of CDGSW, NTB, CVSY, HSY, PIXCLK, GCLK, PAL60B and VCLK of IC401 (BU1417AK) has changed as follows:

① When the power is supplied to the circuit boards of the CD block,

② When starting to reach TOC.

③ The modes have changed as follows:

- TVMSW is switched.
- Switching of encoding system owing to exchange of video CD disc
- Exchange of video CD disc with the CD-DA or CD-G.

IC, BU1417AK

Pin No.	Pin Name	I/O	Description
1	BOSD	I	OSD Blue Data input.
2	GD0	I	Green Data Bit 0. (LSB)
3-8	GD1-GD6	I	Green Data Bit 1-6.
9	GND	—	Digital ground.
10	GD7	I	Green Data Bit 7. (MSB)
11	BD0	I	Blue Data Bit 0. (LSB)
12-14	BD1-BD3	I	Blue Data Bit 1-3.
15	OSDSW	I	OSD input enable.
16	CDGSWB	I	Select Video-CD/$\overline{\text{CD-G}}$.
17-19	BD4-BD6	I	Blue Data Bit 4-6.
20	BD7	I	Blue Data Bit 7. (MSB)
21	GND	—	Digital ground.
22	NTB	I	Select $\overline{\text{NTSC}}$/PAL mode.
23, 24	IM0, IM1	I	Input mode set Bit 0, 1.
25, 26	TEST1, TEST2	I	Normally pulldown to GND.
27	CVSY	I	C-SYNC or V-SYNC input.
28	HSY	I	H-SYNC input.
29	PIXCLK	O	1/2 Freq. of internal CL.
30	BLKB	I	Data blanking $\overline{\text{ENABLE}}$.
31	VDD	—	Digital VDD.
32	INT	I	INTERLACE/$\overline{\text{NON-INTERLACE}}$.
33	SLABEB	I	Set mode MASTER/$\overline{\text{SLABE}}$.
34	ADDH	I	ADD One_line at Non-inter.
35	VREF	I	Reference voltage. (1.29V)
36	CGND	—	Chroma output ground.
37	COUT	O	Chroma output.
38	VGND	—	Composite output ground.
39	VOUT	O	Composite output.
40	AVSS	—	Analog (DAC, VREF) ground.
41	NC	—	Not used.
42	IR	I	Reference resistor. (1.2K)
43	AVDD	—	Analog (DAC, REF) VDD.
44	YGND	—	Luminance output ground.
45	YOUT	O	Luminance output.
46	G4FSC	I	Pulldown to GND.
47	GCLK	I	Video clock input for CD-G.
48	YCOFF	I	DAC (YOUT, COUT) off.
49	YFILON	I	Pulldown to GND.
50	PAL60B	I	$\overline{\text{PAL60 ON}}$ at NTB=HIGH.
51	VCLK	I	Video clock input for VCD.
52	RSTB	I	Logic part initial reset.

Pin No.	Pin Name	I/O	Description
53	CLKSW	I	Divide input CLK $\overline{\text{ENABLE}}$.
54	RD0	I	Red data Bit 0. (LSB)
55, 56	RD1, RD2	I	Red data Bit 1, 2.
57	ROSD	I	OSD Red data input.
58-60	RD3-RD5	I	Red data Bit 3-5.
61	VDD	—	Digital VDD.
62	RD6, RD7	I	Red data Bit 6, 7.
63	GOSD	I	OSD green data input.

IC, CL484

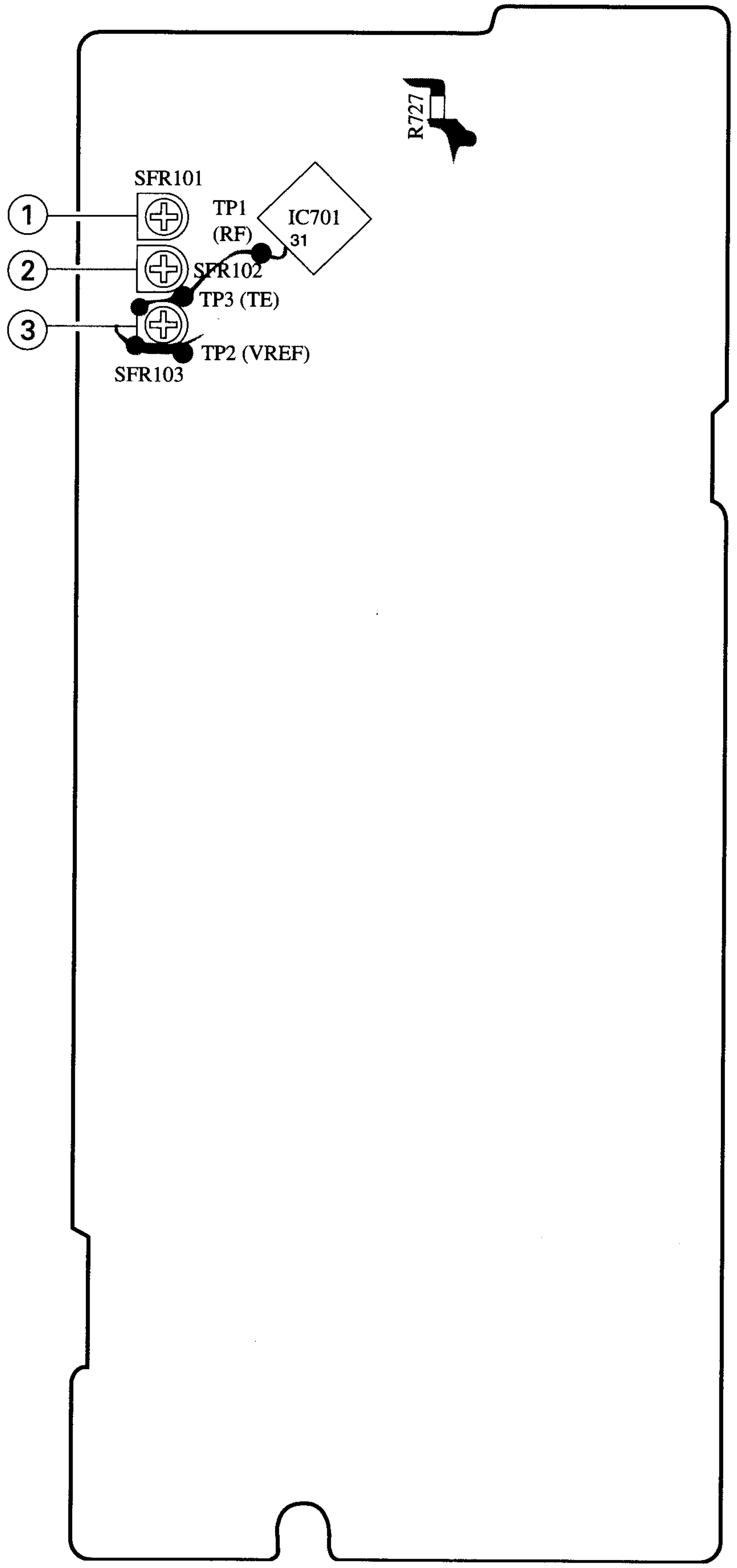
Pin No.	Pin Name	I/O	Description
1	HSEL2	I	Host address bus.
2	-DS	I	Data strobe.
3	R/-W	I	Read/write.
4	CFLEVEL	O	Coded data FIFO level status. Open drain.
5	-DACK	O	Host data acknowledge. Open drain.
6	HD0	I/O	Host data bus.
7	VDD3	—	Power supply pin. Used in 3.3 V.
8, 9	HD1, HD2	I/O	Host data bus.
10	VSS	—	GND.
11-15	HD3-HD7	I/O	Host data bus.
16	VSS	—	GND.
17	-TEST	I	Test terminal. Normally fixed to High.
18	VSS	—	GND.
19	XTL IN	I	Global clock. 40.5 MHz.
20	XTL OUT	O	Global clock. 40.5 MHz.
21, 22	VDD3	—	Power supply pin. Used in 3.3 V.
23-28	MD0-MD5	I/O	Memory data bus.
29	VDD3	—	Power supply pin. Used in 3.3 V.
30, 31	MD6, MD7	I/O	Memory data bus.
32, 33	-MCE0, -MCE1	O	Chip enable.
34-37	MD8-MD11	I/O	Memory data bus.
38	VSS	—	GND.
39-42	MD12-MD15	I/O	Memory data bus.
43	VDDMAX	—	Power supply pin. Used in 5.0 V.
44	-LCAS	O	Lower digit, column address strobe.
45	-LCASIN	I	Lower digit, data latch enable.
46	VSS	—	GND.
47	-MWE	O	Write enable.
48	-UCAS	O	Higher digit, column address strobe.
49	VDD3	—	Power supply pin. Used in 3.3 V.
50	-UCASIN	I	Higher digit, data latch enable.
51, 52	RAS0, RAS1	O	Lower address strobe.
53-57	MA9-MA5	O	Memory address bus.
58	VSS	—	GND.
59-63	MA4-MA0	O	Memory address bus.
64	RESERVED	—	Reserved.
65	VDD3	—	Power supply pin. Used in 3.3 V.
66-72	VD0-VD6	O	Pixel data bus. RGB or YCbCr format.
73	VSS	—	GND.
74-76	VD7-VD9	O	Pixel data bus. RGB or YCbCr format.
77	VDD3	—	Power supply pin. Used in 3.3 V.

Pin No.	Pin Name	I/O	Description
78-80	VD10-VD12	O	Pixel data bus. RGB or YCbCr format.
81	VDD3	—	Power supply pin. Used in 3.3 V.
82-84	VD13-VD15	O	Pixel data bus. RGB or YCbCr format.
85	VSS	—	GND.
86-89	VD16-VD19	O	Pixel data bus. RGB or YCbCr format.
90	VSS	—	GND.
91-94	VD20-VD23	O	Pixel data bus. RGB or YCbCr format.
95	-VSYNC or CSY	I/O	Vertical sync signal.
96	-HSYNC	I/O	Horizontal sync signal.
97	-VOE	I	Video output enable.
98	VDD3	—	Power supply pin. Used in 3.3 V.
99	VCLK	I/O	Video clock.
100	VSS	—	GND.
101	-RESET	I	Hardware reset.
102	VSS	—	GND.
103	CD-C2PO	I	Data error. Used during CD-ROM data input.
104	CD-LRCK	I	LR clock.
105	CD-DATA	I	Serial data input from CD-DSP.
106	CD-BCK	I	Bit clock from CD decoder.
107	DA-LRCK	O	LR clock.
108	DA-DATA	O	Bit serial audio sample signal.
109	DA-BCK	O	Audio bit clock.
110	VDD3	—	Power supply pin. Used in 3.3 V.
111	DA-XCLK	I	External audio frequency clock.
112	VDD3	—	Power supply pin. Used in 3.3 V.
113	-INT	O	Interrupt request.
114	CDG-S0S1	I	Block start sync.
115	HOST_ENA	I	Host enable.
116	RAM_ENA	I	Boot ROM enable.
117	CDG-VFSY	I	Frame start or composite sync.
118	DAC_EMP	O	Output emphasis flag.
119	CDDA_EMP	I	Input emphasis flag.
120	CDG-SDATA	I	Subcode data.
121	CDG-SCLK	I/O	Subcode data clock.
122	CDDA/VCD	O	Input data identification. H: CDDA. L: video CD.
123	VDDMAX	I	Power supply pin. Used in 5.0 V.
124	FSC1	O	Output generated by dividing-by-4 the pin-126 input CLK.
125	VSS	—	GND.
126	FSC4	I	Frequency divider input.
127, 128	HSEL0, HSEL1	I	Host address bus.

IC, BU2173AF

Pin No.	Pin Name	I/O	Description
1	VDD	—	Digital VDD.
2	TSTO	O	Open during normal mode. (Used in test mode.)
3	XTALI	I	Reference oscillator input.
4	XTALO	O	Reference oscillator output.
5	CTRLA	I	CD-G/VCD clock selector terminal.
6	CTRLB	I	Fixed to “H” during normal mode.
7	CTRLC	I	CD-G PAL/NTSC clock selector terminal.
8	TSTI	I	Connected to Vss during normal mode. (Used in test mode.)
9	VSS	—	Digital GND.
10	AVSS	—	Analog GND.
11	FOUT3	O	Not used. Open during normal mode.
12	VSSIO	—	I/O GND.
13	FOUT2	O	Clock output (2).
14	TEST	—	Test mode setting. Connected to Vss during normal mode.
15	FOUT1	O	Clock output (1).
16	VDDIO	—	I/O VDD.
17	FOUT4	O	Clock output (4).
18	AVDD	—	Analog VDD.

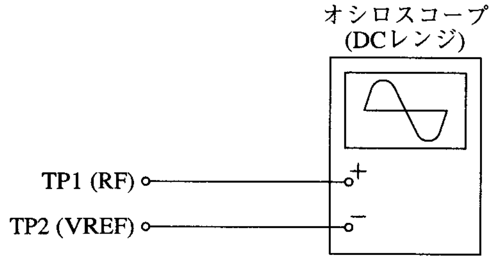
VCD MAIN C.B (PATTERN SIDE)


R727
SFR101
①
②
③
TP1
(RF)
IC701
31
SFR102
TP3 (TE)
TP2 (VREF)
SFR103

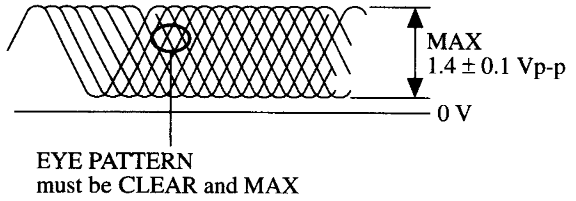
注意: ・ (10: 1) のプローブを接続して、調整して下さい。
・ 各調整には、オシロスコープの⊖側をTP2 (VREF) に接続して下さい。

1. フォーカスバイアス調整

この調整は、光学系ブロックを交換修理した場合に調整すること。

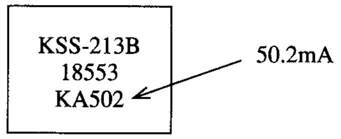

オシロスコープ
(DCレンジ)
TP1 (RF)
TP2 (VREF)
+
−

1) テストポイントTP1 (RF)、TP2 (VREF) にオシロスコープを接続する。
2) POWERスイッチをONにする。
3) テストディスクTCD-782 (YEDS-18) を入れて2曲目をPLAYさせる。
4) オシロスコープの波形の振幅が最大となり、かつ中央のひし形が、鮮明になるようにSFR11を調整する。


MAX
1.4 ± 0.1 Vp-p
0 V
EYE PATTERN
must be CLEAR and MAX

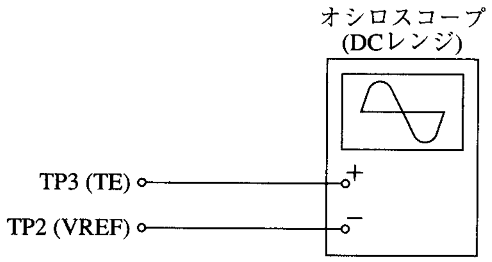
VOLT/DIV: 50mV
TIME/DIV: 0.5 μS

注意: レーザー電流の確認はR727 (10Ωの両端電圧) で行えます。レーザーピックアップの裏側のラベルの電流値に対して±6.0mAに入っていること。

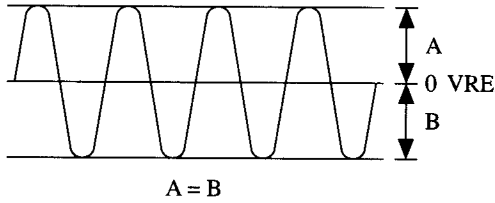

KSS-213B
18553
KA502
50.2mA

$$\text{レーザー電流}\mathrm{Iop} = \frac{\text{R727の両端電圧}}{10\Omega}$$

2. トラッキング・バランス調整


オシロスコープ
(DCレンジ)
TP3 (TE)
TP2 (VREF)
+
−

1) テストポイントTP3 (TE)、TP2 (VREF) にオシロスコープを接続する。
2) POWERスイッチをONにする。
3) テストディスクTCD-782 (YEDS-18) を入れて、▶PLAY状態にする。
4) SFR13を回しトラッキングゲインを絞る。
5) オシロスコープのトラバース波形が、下図のように上下対称になるようにSFR12を調整する。
6) 調整後、各端子のアースリード線をはずす。



VOLT/DIV: 20mV
TIME/DIV: 1mS

3. トラッキングゲイン調整

この調整を正確に行うためには、サーボアナライザーが必要です。しかし、このゲインはマージンを持っているため、通常では少し位ずれていてもほとんど問題はありません。したがってこの調整は行わないで下さい。フォーカス/トラッキングゲインは2軸デバイス動作時の機械的雑音と機械的ショックに対するピックアップの追従性を決めています。しかし、これは互いに相反するため、両方を満足する点に調整してあります。

- ● ゲインを上げると2軸デバイス動作時の雑音が増加する。
- ● ゲインを下げると機械的ショックに弱くなり音飛びを起こしやすくなる。

そしてゲインの調整がずれていると次頁の様な症状が出ます。

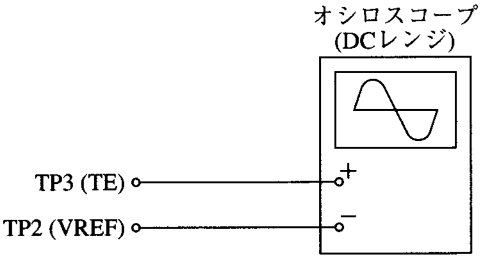
ゲイン 症状	(フォーカス)	トラッキング
● STOP→▶PLAY時，又は自動選曲時 (⏮,⏭ボタンを押したとき) に演奏が始まるまでの時間が長くなる。(通常は2秒位です。)	低い	低い 又は 高い
● STOP→▶PLAY時，又は自動選曲時 (⏮,⏭ボタンを押したとき) に演奏が始まらないでディスクが回転を続ける。	——	低い
● STOP→▶PLAY時，しばらくすると回転が止まる。	低い又は高い	——
● 演奏中に音がとぎれる。又，タイムカウンターの表示が進まなくなる。	——	低い
● 2軸ディバイス動作時のノイズが多くなる。	高い	高い

なお、簡易調整として下記の方法があります。

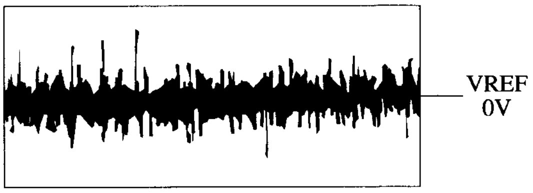
—— 簡易調整 ——

注意: 正確には調整できないため、調整を行う前にボリュームの位置を憶えておいて、簡易調整を行った後のボリュームの位置と比較して、そのずれが少ないときは元のボリュームの位置に戻しておいて下さい。

調整方法:



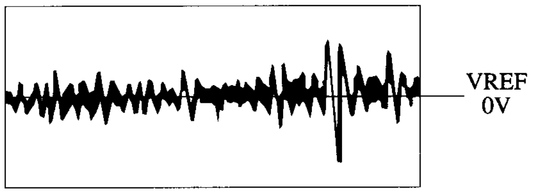
1. セットを水平に置く。
   (セットを水平に置かないと2軸デバイスが重力の影響を受け、調整出来ません。)
2. テストディスクTCD-782 (YEDS-18)を入れて2曲目を再生する。
3. オシロスコープをTP3 (TE)、TP2 (VREF) に接続する。
4. オシロスコープの波形が下図の波形になるようにSFR13を調整する。(トラッキングゲイン調整)



VOLT/DIV: 50mV
TIME/DIV: 1mS

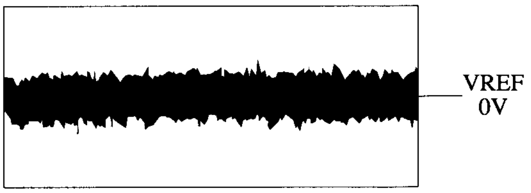
● 悪い例

トラッキングゲインが低い時
(調整されている波形と比べて基本波が表れるようになる。)



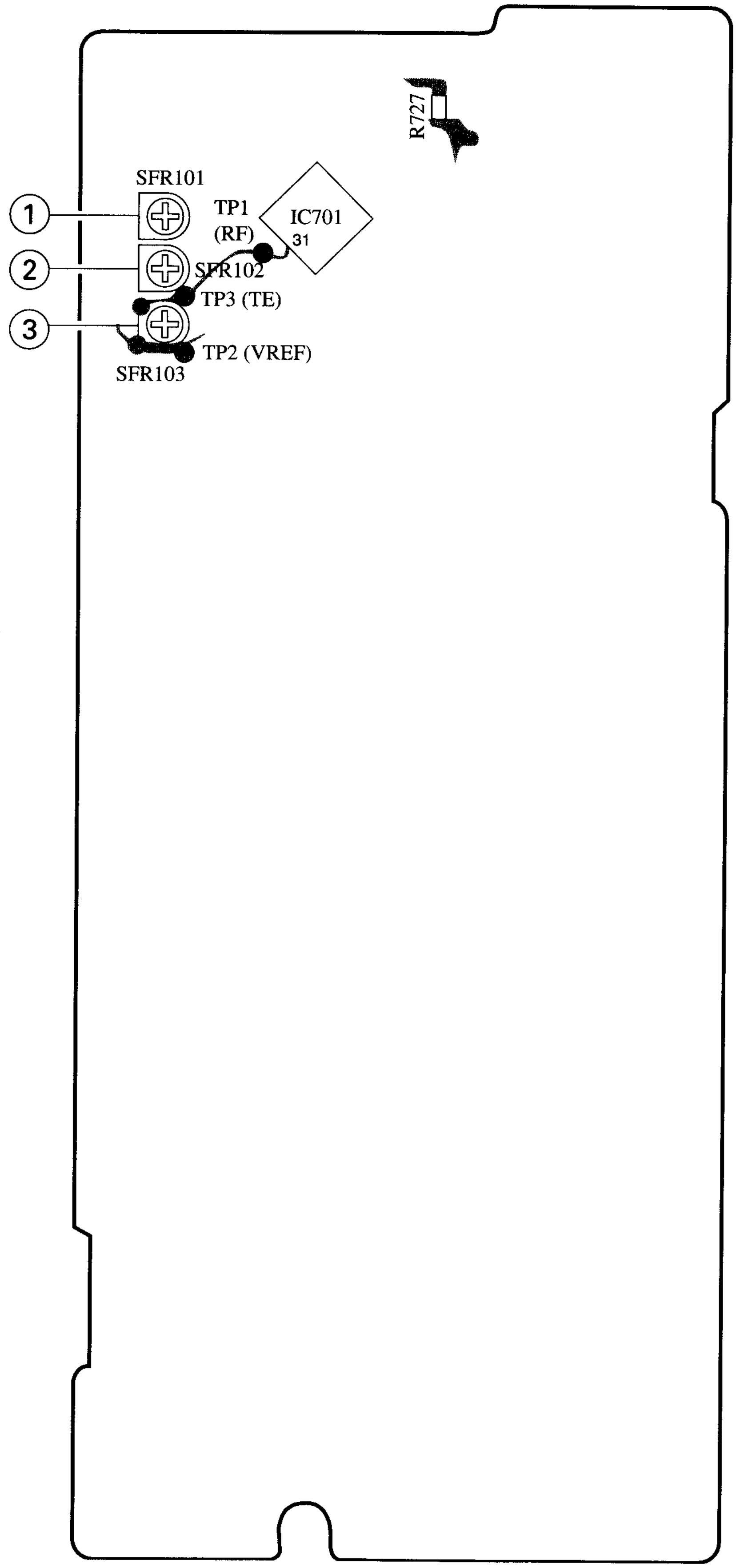
VOLT/DIV: 50mV
TIME/DIV: 1mS

トラッキングゲインが高い時
(ゲインが低い時と比べて基本波が高い)



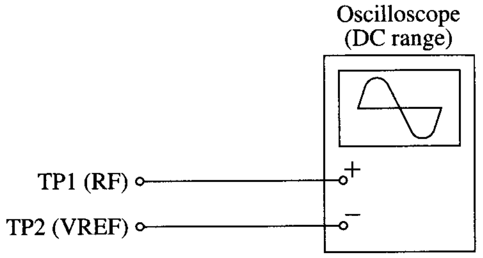
VOLT/DIV: 50mV
TIME/DIV: 1mS

VCD MAIN C.B (PATTERN SIDE)

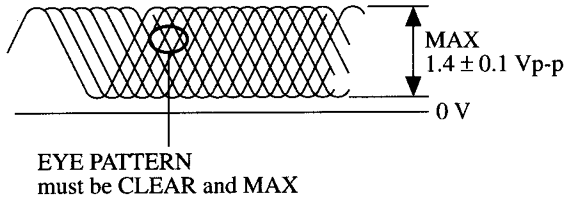

R727
SFR101
TP1
(RF)
IC701
31
①
②
SFR102
TP3 (TE)
③
TP2 (VREF)
SFR103

Note:
- Connect a probe (10: 1) of the oscilloscope or the frequency counter to a test point.
- During adjustment, connect (⊖) pin of an oscilloscope to TP2 (VREF).

1. Focus Bias Adjustment
   Make the focus bias adjustment when replacing and repairing the optical block.

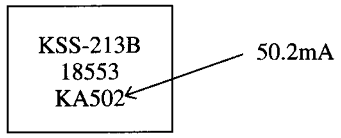


1) Connect an oscilloscope to test points TP1 (RF) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
4) Adjust SFR11 so that RF signal of test point TP1 (RF) is MAX and CLEARREST.



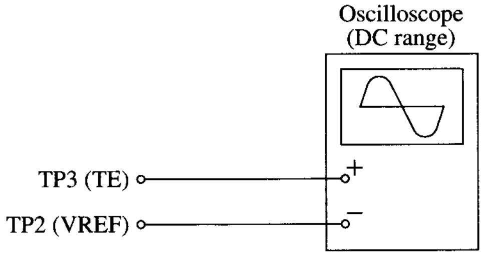
VOLT/DIV: 50mV
TIME/DIV: 0.5μS

Note: The current of the laser signal can be checked with the voltages on both sides of R727 (10Ω). The difference for the specified value shown on the lavel must be within±6.0mA.

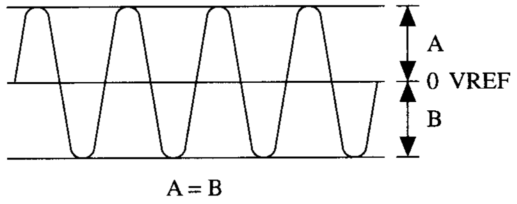


$$\text{Laser current Iop} = \frac{\text{Voltage across R727}}{10\Omega}$$

2. Tracking Balance Adjustment



1) Connect an oscilloscope to test points TP3 (TE) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and press the PLAY button.
4) Adjust SFR13 to decrease the tracking gain..
5) Adjust SFR12 so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
6) After the adjustment is completed, remove the connected lead wires from the terminals.



VOLT/DIV: 20mV
TIME/DIV: 1mS

3. Tracking Gain Adjustment

   A servo analyzer is necessary in order to perform this adjustment exactly. However, this gain has a margin, so even if it is slightly off, there is no problem. Therfore, do not perform this adjustment.
   Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when 2-axis device operates. However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise increases when the 2-axis device operates.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.
  When the gain adjustment is off, the symptoms below appear.

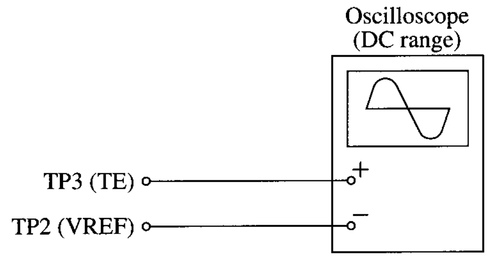
Symptoms \ Gain	(Focus)	Tracking
● The time until music starts becomes longer for STOP → ▶PLAY or automatic selection (⏮, ⏭ buttons pressed.) (Normally takes about 2 seconds.)	low	low or high
● Music does not start and disc continues to rotate for STOP →▶PLAY or automatic selection (⏮, ⏭ buttons pressed.)	——	low
● Disc stops to rotate shortly after STOP →▶PLAY.	low or high	——
● Sound is interrupted during PLAY. Or time counter display stops.	——	low
● More noises during the 2-axis device operation.	high	high

The following is simple adjustment method.

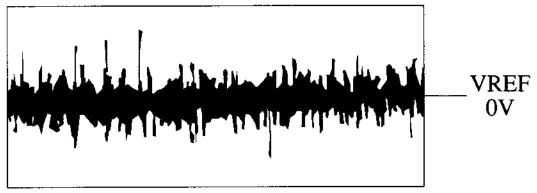
— Simple adjustment —

Note: Since the exact adjustment cannot be performed, remember the positions of the controls before the performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procedure:



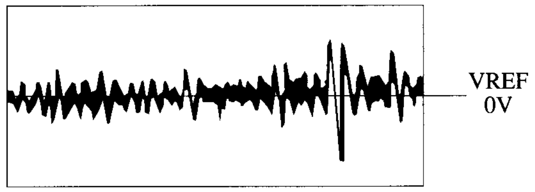
1) Keep the set horizontal. (If the set is not kept horizontally, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
3) Connect an oscilloscope to TP3 (TE), TP2 (VREF).
4) Adjust SFR13 so that the waveform appears as shown in the figure below. (tracking gain adjustment)



VOLT/DIV: 50mV
TIME/DIV: 1mS

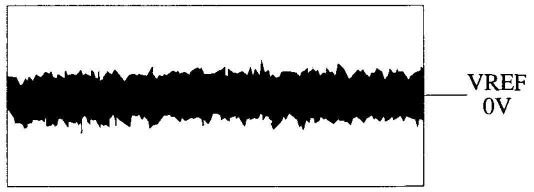
- Incorrect example

Low tracking gain
(The fundamental wave appears as compared with the waveform adjusted.)



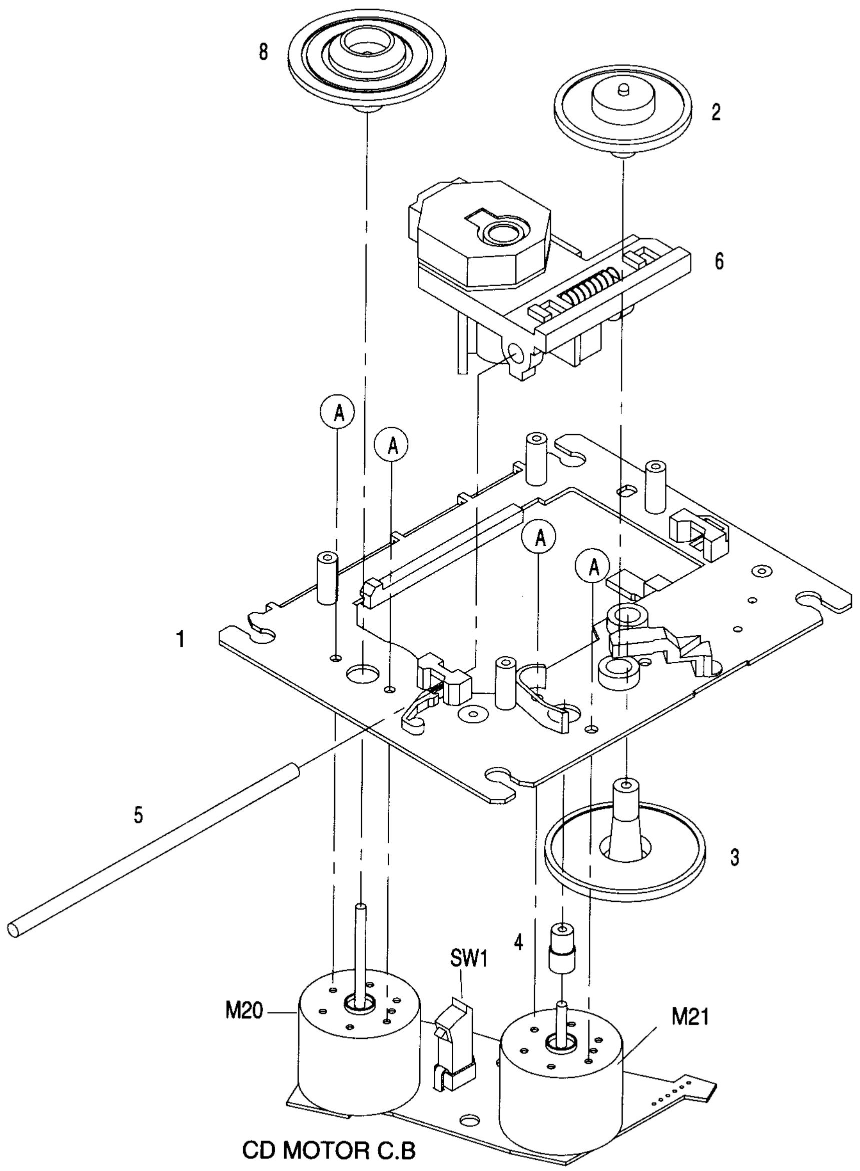
VOLT/DIV: 50mV
TIME/DIV: 1mS

High tracking gain
(The frequency of the fundamental wave is higher than that in low gain.)



VOLT/DIV: 50mV
TIME/DIV: 1mS

CD MECHANISM EXPLODED VIEW 1/1 (3ZG-2 C6N)



CD MECHANISM PARTS LIST 1/1 (3ZG-2 C6N)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-232-11K	--	O-SERT S ASSY,S5
2	83-ZG2-237-11K	--	GEAR,A5
3	83-ZG2-205-219	0E	GEAR,B
4	83-ZG2-238-01K	--	GEAR,MOTOR 5
5	83-ZG2-207-119	1A	SHAFT,SLIDE
6	87-070-445-010	2C	PICK-UP,KSS-213B
8	83-ZG2-227-01K	--	TURN TABLE,C1
A	87-261-032-219	0E	SCREW V+2-3

MODEL NO. 6ZG-1 (D, F, P, V1)

ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-002-783-110	2Y	IC,CXD2500BQ
	87-A20-606-010	1C	IC,PQ05RD11
	87-017-825-010	1E	IC,GP1F32T<D>
	84-ZG1-669-010	2M	C-IC,MB89627R-361
	87-A20-255-040	1B	C-IC,SN74LV373NS
	87-A20-464-040	1F	C-IC,LH5164AN-10L
	87-A20-252-040	0E	C-IC,SN74LV00NS
	87-A20-253-040	0E	C-IC,SN74LV04NS
	87-A20-254-040	0E	C-IC,SN74LV32NS
	87-A20-576-040	1A	C-IC,M51945A
	87-A20-244-010	3M	C-IC,CL484
	87-A20-200-040	2E	C-IC,HM514260CJ7/CLJ7
	86-NM1-621-040	1H	C-IC,LH5317W1
	87-A20-256-040	1C	C-IC,PQ20VZ5U
	87-A20-372-010	2P	C-IC,TC9409BF
	87-017-888-080	1A	C-IC,NJM4558MD
	87-001-982-010	1C	IC,TA7291S
	87-017-745-010	2A	C-IC,CXA1782BQ
	87-A20-257-040	1H	C-IC,BA6791FP
	87-A20-247-010	2P	C-IC,BU1417AK
TRANSISTOR			
	87-026-608-080	0E	C-TR,DTC123JK<F>
	89-421-722-380	0E	TR,2SD2172V/W
	89-320-011-080	0E	TR,2SC2001K
	87-026-239-080	0E	C-TR,DTC114TK
	87-026-470-080	1A	C-TR,HN1C03FB
	89-111-625-080	0E	C-TR,2SA1162GR
	87-026-235-080	0E	C-TR,DTC114EK
DIODE			
	87-020-027-080	0E	C-DIODE,1SS184
	87-A40-196-080	0E	C-ZENER,UDZ6.2B
MAIN VCD C.B			
C101	87-010-197-080	0E	C-CAP,S 0.01-25 K B<D>
C102	87-010-550-040	0E	CAP,E 100-6.3 5L SRE<D>
C103	87-010-318-080	0E	C-CAP,S 47P-50 J CH<D>
C104	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C105	87-010-318-080	0E	C-CAP,S 47P-50 J CH
C106	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C107	87-012-156-080	0E	C-CAP,S 220P-50 J CH GRM
C108	87-010-184-080	0E	C-CAP,S 3300P-50 K B
C109	87-010-194-080	0E	C-CAP,S 0.047-25 Z F
C111	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C112	87-012-358-080	0E	C-CAP,S 0.47-10 Z F
C113	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C114	87-010-550-040	0E	CAP,E 100-6.3 5L SRE
C115	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C116	87-010-550-040	0E	CAP,E 100-6.3 5L SRE
C117	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C118	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C130	87-010-178-080	0E	C-CAP,S 1000P-50 K B
C201	87-010-499-040	0E	CAP,E 22-6.3 M 5L SRE
C202	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C203	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C204	87-010-316-080	0E	C-CAP,S 33P-50 J CH
C205	87-010-316-080	0E	C-CAP,S 33P-50 J CH
C206	87-010-499-040	0E	CAP,E 22-6.3 M 5L SRE
C207	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C208	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C209	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C210	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C211	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C212	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C301	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C302	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C303	87-010-178-080	0E	C-CAP,S 1000P-50 K B
C304	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C305	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C306	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C307	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C308	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C309	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C310	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C311	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C312	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C313	87-010-318-080	0E	C-CAP,S 47P-50 J CH
C314	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C315	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C316	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C317	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C320	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C321	87-010-550-040	0E	CAP,E 100-6.3 5L SRE
C322	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C323	87-010-550-040	0E	CAP,E 100-6.3 5L SRE
C324	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C330	87-010-152-080	0E	C-CAP,S 8P-50 D CH
C331	87-010-152-080	0E	C-CAP,S 8P-50 D CH
C401	87-010-496-040	0E	CAP,E 3.3-50 M 5L SRE
C402	87-010-496-040	0E	CAP,E 3.3-50 M 5L SRE
C501	87-010-498-040	0E	CAP,E 10-16 M 5L SRE
C503	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C504	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C505	87-010-313-080	0E	C-CAP,S 18P-50 J CH
C506	87-010-313-080	0E	C-CAP,S 18P-50 J CH
C507	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C508	87-010-498-040	0E	CAP,E 10-16 M 5L SRE
C509	87-010-498-040	0E	CAP,E 10-16 M 5L SRE
C510	87-010-498-040	0E	CAP,E 10-16 M 5L SRE
C511	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C512	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C513	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C514	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C515	87-010-318-080	0E	C-CAP,S 47P-50 J CH
C520	87-010-186-080	0E	C-CAP,S 4700P-50 K B
C521	87-010-187-080	0E	C-CAP,S 5600P-50 K B
C523	87-010-177-080	0E	C-CAP,S 820P-50 J SL
C524	87-010-805-080	0E	C-CAP,S 1-16 Z F
C530	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C531	87-010-497-040	0E	CAP,E 4.7-35 5L SRE
C532	87-010-497-040	0E	CAP,E 4.7-35 5L SRE
C533	87-010-318-080	0E	C-CAP,S 47P-50 J CH
C534	87-010-318-080	0E	C-CAP,S 47P-50 J CH
C535	87-010-497-040	0E	CAP,E 4.7-35 5L SRE
C536	87-010-497-040	0E	CAP,E 4.7-35 5L SRE
C537	87-010-178-080	0E	C-CAP,S 1000P-50 K B
C538	87-010-178-080	0E	C-CAP,S 1000P-50 K B
C540	87-010-264-040	0E	CAP,E 100-10 M 5L SRE
C541	87-010-264-040	0E	CAP,E 100-10 M 5L SRE
C601	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C602	87-010-101-080	0E	CAP,E 220-16 SME
C603	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C701	87-010-313-080	0E	C-CAP,S 18P-50 J CH
C702	87-010-193-080	0E	C-CAP,S 0.033-25 Z F C2012
C703	87-010-958-080	0E	C-CAP,S 0.01-25 J B
C704	87-016-369-080	0E	C-CAP,S 0.033-25 K B
C705	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C707	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C708	87-010-805-080	0E	C-CAP,S 1-16 Z F
C709	87-012-155-080	0E	C-CAP,S 180P-50 J CH
C710	87-016-369-080	0E	C-CAP,S 0.033-25 K B
C711	87-010-499-040	0E	CAP,E 22-6.3 M 5L SRE
C712	87-012-140-080	0E	C-CAP,S 470P-50 J CH
C713	87-016-081-080	0E	C-CAP,S 0.1-16 K R

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C714	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C715	87-012-141-080	0E	C-CAP,S 0.22-16 Z F
C716	87-010-182-080	0E	C-CAP,S 2200P-50 K B
C717	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C718	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C719	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C720	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C721	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C722	87-010-497-040	0E	CAP,E 4.7-35 5L SRE
C725	87-010-550-040	0E	CAP,E 100-6.3 5L SRE
C726	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C727	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C728	87-010-549-040	0E	CAP,E 47-6.3 M 5L SRE
C729	87-010-182-080	0E	C-CAP,S 2200P-50 K B
C731	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C733	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C734	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C735	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C736	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C737	87-010-805-080	0E	C-CAP,S 1-16 Z F
C738	87-010-178-080	0E	C-CAP,S 1000P-50 K B
C751	87-016-081-080	0E	C-CAP,S 0.1-16 K R
C801	87-010-550-040	0E	CAP,E 100-6.3 5L SRE
C802	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C803	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C804	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C805	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C806	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C807	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C821	87-012-140-080	0E	C-CAP,S 470P-50 J CH
C822	87-010-322-080	0E	C-CAP,S 100P-50 J CH
C823	87-012-140-080	0E	C-CAP,S 470P-50 J CH
C824	87-012-140-080	0E	C-CAP,S 470P-50 J CH
C825	87-010-371-080	0E	CAP,E 470-6.3 M SME
C826	87-012-140-080	0E	C-CAP,S 470P-50 J CH
C827	87-010-175-080	0E	C-CAP,S 560P-50 J SL
C828	87-010-317-080	0E	C-CAP,S 39P-50 J CH
C829	87-010-197-080	0E	C-CAP,S 0.01-25 K B
FC1	86-ZG1-605-010	1A	CABLE,FFC 16P
FC2	86-ZG1-608-010	1B	CABLE,FFC 8P
J502	87-009-393-010	1A	JACK,PIN 2P RED W/O SW
J801	87-009-502-010	1A	JACK,PIN 1P YEL W/O SW
L101	87-005-196-080	0E	COIL,10UH K EL0606KSI
L201	87-005-196-080	0E	COIL,10UH K EL0606KSI
L301	87-005-196-080	0E	COIL,10UH K EL0606KSI

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
L302	87-005-196-080	0E	COIL,10UH K EL0606KSI
L303	87-005-196-080	0E	COIL,10UH K EL0606KSI
L801	87-005-196-080	0E	COIL,10UH K EL0606KSI
L821	87-005-189-080	0E	COIL,2.7UH K EL0606
L822	87-005-190-080	0E	COIL,3.3UH K EL0606
M601	87-045-305-010	1F	MOTOR, RF-500TB DC-5V (2MA)
R740	87-022-364-080	0E	C-RES,S 82K-1/10W F
R741	87-022-362-080	0E	C-RES,S 56K-1/10W F
R742	87-022-362-080	0E	C-RES,S 56K-1/10W F
R743	87-022-362-080	0E	C-RES,S 56K-1/10W F
R744	87-022-362-080	0E	C-RES,S 56K-1/10W F
R745	87-022-364-080	0E	C-RES,S 82K-1/10W F
S101	87-036-109-010	1A	SW,MICRO SPPB61
S102	87-036-109-010	1A	SW,MICRO SPPB61
S103	87-036-109-010	1A	SW,MICRO SPPB61
S201	87-A90-300-010	1B	SW,SL SSAA 1-3 B
SFR701	87-024-175-080	0E	SFR,47K H RH0638C
SFR702	87-024-176-080	0E	SFR,100K H RH0638C
SFR703	87-024-175-080	0E	SFR,47K H RH0638C
X201	84-JP7-609-080	1B	VIB,XTAL 8.00MHZ
X301	87-A70-062-080	1D	VIB,XTAL 40.5MHZ
X501	87-030-270-080	1C	VIB,XTAL 16.9344MHZ HC-49/U03

LED C.B<F>

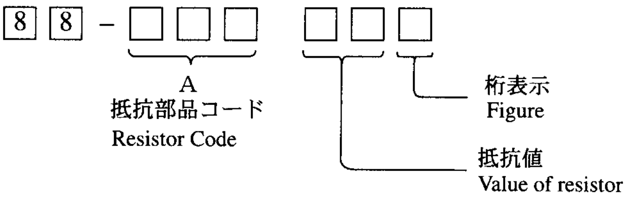
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
LED901	87-017-733-080	0E	LED,SEL1250SMTP5 RED<F>
LED902	87-017-350-080	0E	LED,SEL1550CM PGRN<F>
LED903	87-017-733-080	0E	LED,SEL1250SMTP5 RED<F>

T-T C.B

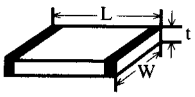
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C411	87-018-214-080	0E	CAP TC U 0.1-50F
LED411	87-070-288-010	0E	LED,GL380
M401	87-A90-036-010	1D	MOT ASSY,RF-300CA-11
PS401	87-A90-156-010	1B	SNSR,SG-240
Q411	87-A30-031-010	1A	P-TR,PT380F
S401	87-036-109-010	1A	PUSH SWITCH

○ チップ抵抗部品コード / CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法 / Diamensions (mm)				抵抗コード :A Resistor Code : A
				外形 / Form	L	W	t	
1/16W	1608	5%	CJ		1.6	0.8	0.45	108
1/10W	2125	5%	CJ		2	1.25	0.45	118
1/8W	3216	5%	CJ		3.2	1.6	0.55	128

共通部分は、下記のページを参照して下さい。
Refer to the following pages for the common section.

■ IC DESCRIPTION

CXA1782BQ	24ページ参照 See page 28
CXD2500BQ	56ページ参照 See page 67
MB89627	60ページ参照 See page 70
BU1417AK	62ページ参照 See page 72
CL484	64ページ参照 See page 74

■ IC BLOCK DIAGRAM

TA7291S	23ページ参照 See page 23
BA6791FP	55ページ参照 See page 55

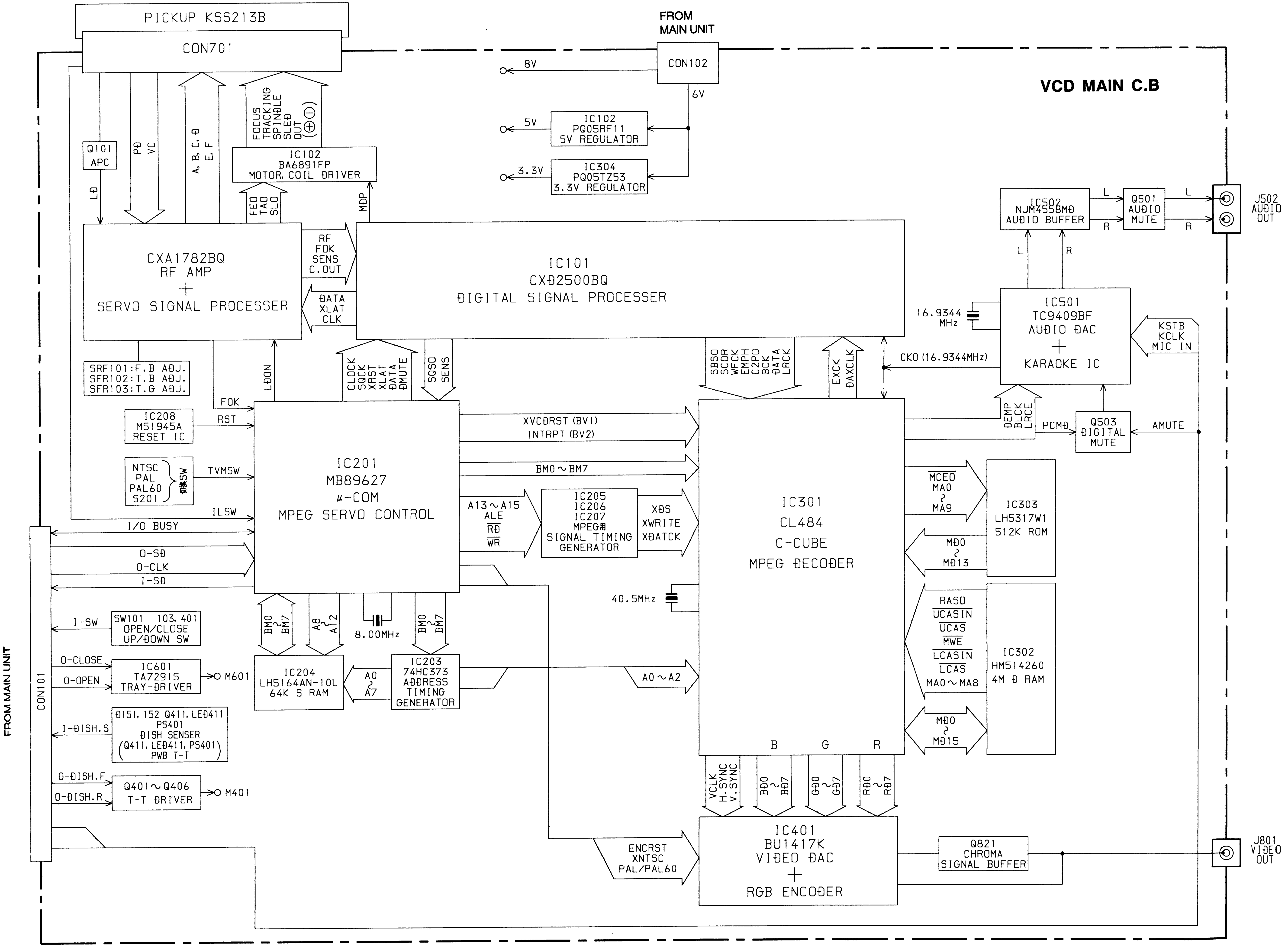
■ MECHANICAL EXPLODED VIEW/PARTS LIST

40ページ参照
See page 40

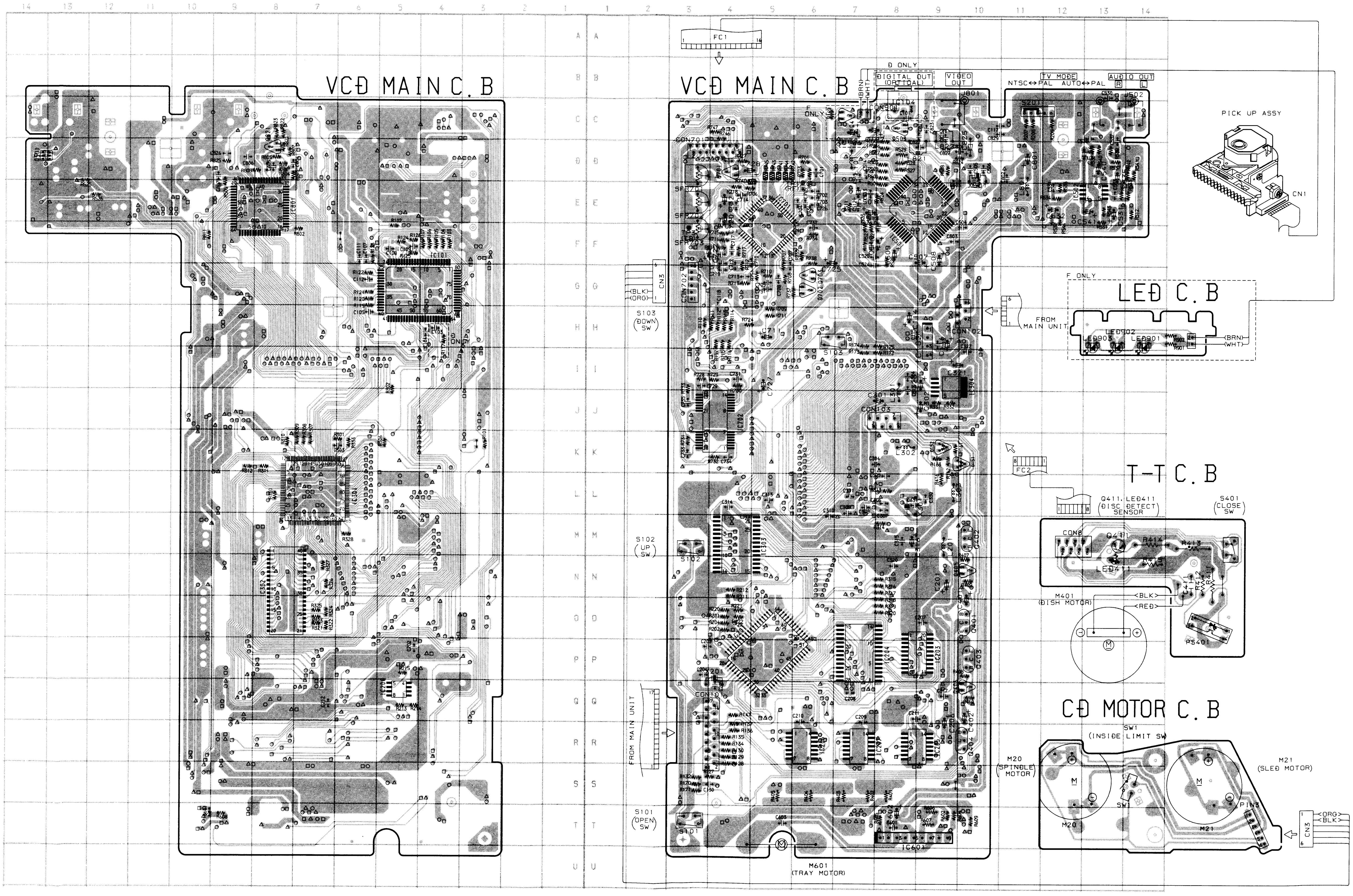
■ CD MECHANISM EXPLODED VIEW/PARTS LIST

83ページ参照
See page 83

BLOCK DIAGRAM


PICKUP KSS213B
CON701
FROM MAIN UNIT
CON102
8V
6V
VCD MAIN C.B
5V
IC102
PQ05RF11
5V REGULATOR
3.3V
IC304
PQ05TZ53
3.3V REGULATOR
Q101
APC
LD
PD
VC
A, B, C, D
E, F
FOCUS
TRACKING
SPINDLE
SLED
OUT
(⊕⊖)
IC102
BA6891FP
MOTOR, COIL DRIVER
FEO
TAO
SLO
MDP
CXA1782BQ
RF AMP
+
SERVO SIGNAL PROCESSER
RF
FOK
SENS
C.OUT
DATA
XLAT
CLK
IC101
CXD2500BQ
DIGITAL SIGNAL PROCESSER
IC502
NJM4558MD
AUDIO BUFFER
L
R
Q501
AUDIO
MUTE
L
R
J502
AUDIO
OUT
L
R
16.9344
MHz
IC501
TC9409BF
AUDIO DAC
+
KARAOKE IC
KSTB
KCLK
MIC IN
CKO (16.9344MHz)
SRF101:F.B ADJ.
SFR102:T.B ADJ.
SFR103:T.G ADJ.
FOK
LDON
CLOCK
SQCK
XRST
XLAT
DATA
DMUTE
SQSO
SENS
SBSO
SCOR
WFCK
EMPH
C2PO
BCK
DATA
LRCK
EXCK
DAXCLK
DEMP
BLCK
LRCE
PCMD
Q503
DIGITAL
MUTE
AMUTE
IC208
M51945A
RESET IC
RST
NTSC
PAL
PAL60
S201
切換SW
TVMSW
ILSW
I/O BUSY
O-SD
O-CLK
I-SD
IC201
MB89627
μ-COM
MPEG SERVO CONTROL
XVCDRST (BV1)
INTRPT (BV2)
BM0～BM7
A13～A15
ALE
RD
WR
IC205
IC206
IC207
MPEG用
SIGNAL TIMING
GENERATOR
XDS
XWRITE
XDATCK
IC301
CL484
C-CUBE
MPEG DECODER
MCEO
MA0
～
MA9
IC303
LH5317W1
512K ROM
MD0
～
MD13
40.5MHz
RASO
UCASIN
UCAS
MWE
LCASIN
LCAS
MA0～MA8
IC302
HM514260
4M D RAM
MD0
～
MD15
B
G
R
I-SW
SW101 103, 401
OPEN/CLOSE
UP/DOWN SW
BM0
～
BM7
A8
～
A12
8.00MHz
BM0
～
BM7
O-CLOSE
O-OPEN
IC601
TA72915
TRAY-DRIVER
M601
IC204
LH5164AN-10L
64K S RAM
A0
～
A7
IC203
74HC373
ADDRESS
TIMING
GENERATOR
A0～A2
FROM MAIN UNIT
CON101
I-DISH.S
D151, 152 Q411, LED411
PS401
DISH SENSER
(Q411, LED411, PS401
PWB T-T)
O-DISH.F
O-DISH.R
Q401～Q406
T-T DRIVER
M401
VCLK
H.SYNC
V.SYNC
BD0
～
BD7
GD0
～
GD7
RD0
～
RD7
IC401
BU1417K
VIDEO DAC
+
RGB ENCODER
ENCRST
XNTSC
PAL/PAL60
Q821
CHROMA
SIGNAL BUFFER
J801
VIDEO
OUT

WIRING


VCD MAIN C.B
VCD MAIN C.B
FC1
D ONLY
DIGITAL OUT (OPTICAL)
VIDEO OUT
TV MODE
NTSC↔PAL AUTO↔PAL
AUDIO OUT
R
L
(BRN)
(WHT)
F ONLY
PICK UP ASSY
CN1
CN3
(BLK)
(ORG)
S103 (DOWN SW)
S102 (UP SW)
S101 (OPEN SW)
F ONLY
LED C.B
FROM MAIN UNIT
LED903
LED902
LED901
(BRN)
(WHT)
FC2
T-T C.B
Q411, LED411 (DISC DETECT SENSOR)
S401 (CLOSE SW)
CON8
Q411
LED411
M401 (DISH MOTOR)
<BLK>
<RED>
PS401
CD MOTOR C.B
SW1 (INSIDE LIMIT SW)
M20 (SPINDLE MOTOR)
M21 (SLED MOTOR)
M20
M21
SW1
PIN3
CN3
<ORG>
<BLK>
FROM MAIN UNIT
CON101
IC601
M601 (TRAY MOTOR)
IC801
IC101
IC301
IC302
CON701
CON702
IC702
IC104
CON102
CON103
L302
CN901
J801
J502
S201
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
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14
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12
11
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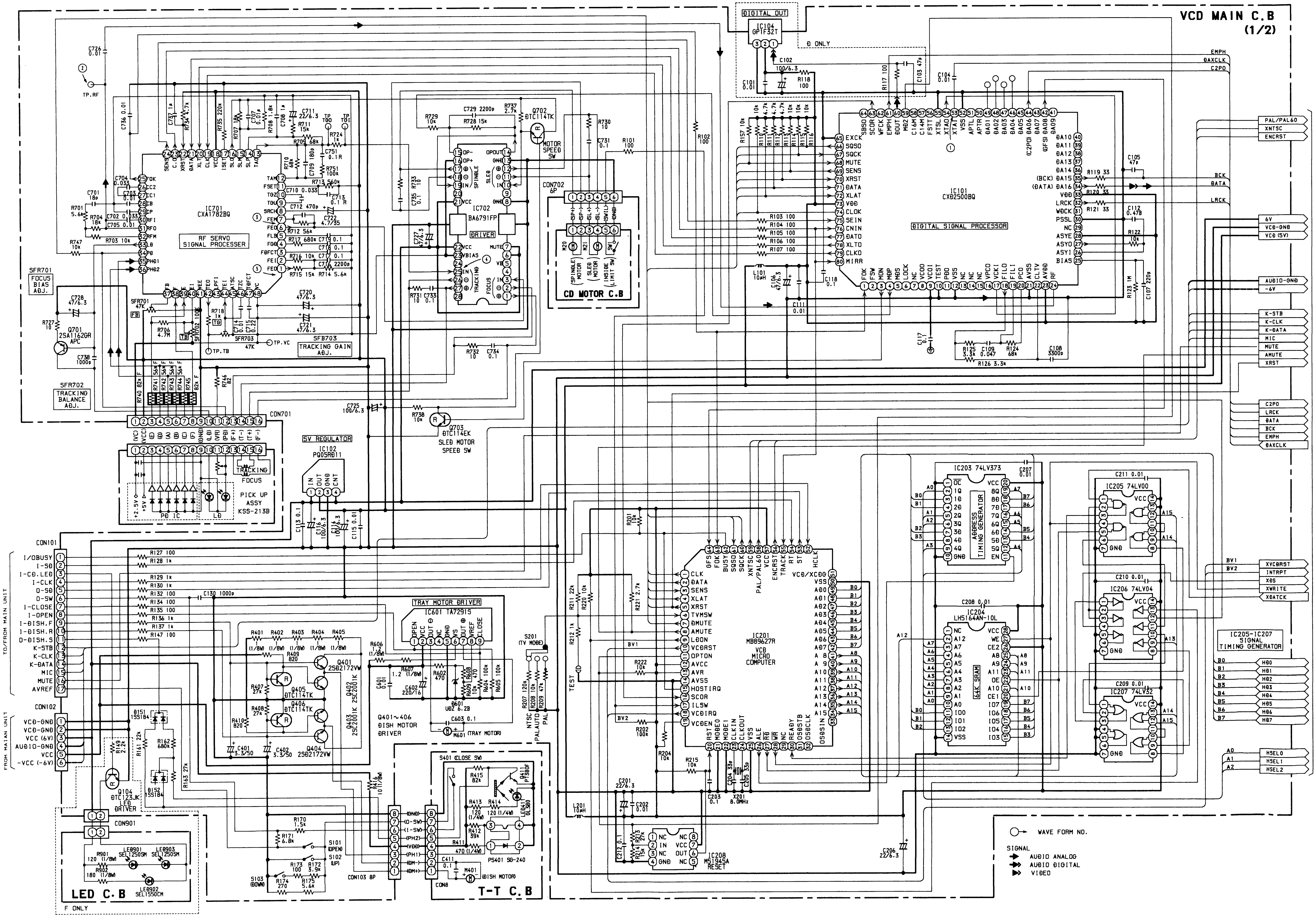
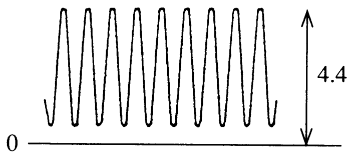
5
4
3
2
1

SCHEMATIC DIAGRAM-1

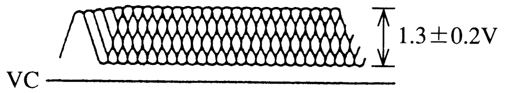

VCD MAIN C.B
(1/2)
DIGITAL OUT
IC104
GP1F32T
D ONLY
TP.RF
IC701
CXA1782BQ
RF SERVO
SIGNAL PROCESSER
SFR701
FOCUS
BIAS
ADJ.
SFR702
TRACKING
BALANCE
ADJ.
Q701
2SA1162GR
APC
SFB703
TRACKING GAIN
ADJ.
TP.TB
TP.VC
IC702
BA6791FP
DRIVER
Q702
DTC114TK
MOTOR
SPEED
SW
CON702
6P
SPINDLE MOTOR
SLED MOTOR
INSIDE LIMIT SW
CD MOTOR C.B
IC101
CXD2500BQ
DIGITAL SIGNAL PROCESSOR
CON701
5V REGULATOR
IC102
PQ05RD11
Q703
DTC114EK
SLED MOTOR
SPEED SW
TRACKING
FOCUS
PICK UP
ASSY
KSS-213B
PD IC
LD
CON101
I/DBUSY
I-SD
I-CD.LED
I-CLK
O-SD
O-SW
I-CLOSE
I-OPEN
I-DISH.F
I-DISH.R
O-DISH.S
K-STB
K-CLK
K-DATA
MIC
MUTE
AVREF
TO/FROM MAIN UNIT
CON102
VCD-GND
VCD-GND
VCC (6V)
AUDIO-GND
VCC
-VCC (-6V)
FROM MAIAN UNIT
TRAY MOTOR DRIVER
IC601 TA7291S
Q401~406
DISH MOTOR
DRIVER
M601 (TRAY MOTOR)
Q104
DTC123JK
LED
DRIVER
CON901
LED C.B
F ONLY
S401 (CLOSE SW)
PS401 SG-240
M401 (DISH MOTOR)
CON8
T-T C.B
CON103 8P
S101 (OPEN)
S102 (UP)
S103 (DOWN)
S201 (TV MODE)
NTSC
PALAUTO
PAL
TEST
IC201
MB89627R
VCD
MICRO
COMPUTER
IC208
M51945A
RESET
X201
8.0MHz
IC203 74LV373
ADDRESS
TIMING GENERATOR
IC204
LH5164AN-10L
64K SRAM
IC205 74LV00
IC206 74LV04
IC207 74LV32
IC205-IC207
SIGNAL
TIMING GENERATOR
PAL/PAL60
XNTSC
ENCRST
BCK
DATA
LRCK
6V
VCD-GND
VCD (5V)
AUDIO-GND
-6V
K-STB
K-CLK
K-DATA
MIC
MUTE
AMUTE
XRST
C2PO
LRCK
DATA
BCK
EMPH
DAXCLK
XVCDRST
INTRPT
XOS
XWRITE
XDATCK
HD0
HD1
HD2
HD3
HD4
HD5
HD6
HD7
HSEL0
HSEL1
HSEL2
TO/FROM VCD MAIN C.B (2/2)
WAVE FORM NO.
SIGNAL
AUDIO ANALOG
AUDIO DIGITAL
VIDEO

WAVE FORM

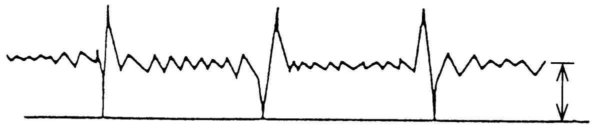
① SYSTEM CLOCK
f=16.9344MHz
IC101 Pin ⑰ (XCKI)
IC101 Pin (53) (XTAI)
VOLT/DIV: 2V
TIME/DIV: 0.1mS



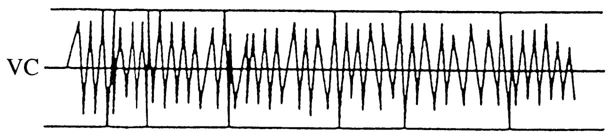
② RF
IC701 Pin ㉛ (RFO)
VOLT/DIV: 500mV
TIME/DIV: 0.5μS



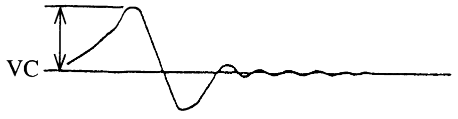
③ FOCUS
IC701 Pin ⑥ (FEO)
VOLT/DIV: 200mV
TIME/DIV: 2mS



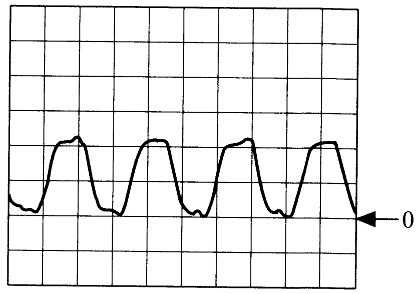
④ TRACKING
IC702 Pin ㉕ (Tracking IN)
TIME/DIV: 1mS



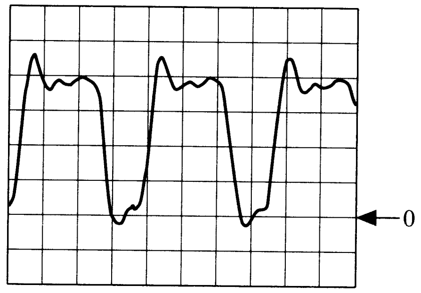
⑤ FOCUS SEARCH
IC701 Pin ① (FEO)



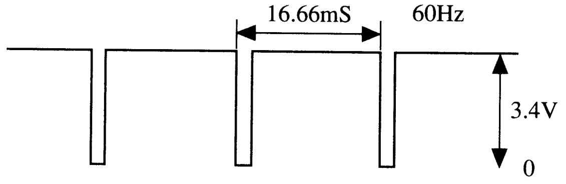
⑥ IC301 Pin ⑲ (XTLIN)
40.5MHz
VCD PLAY • NTSC
• PAL
• PAL AUTO
VOLT/DIV: 1V
TIME/DIV: 10nS



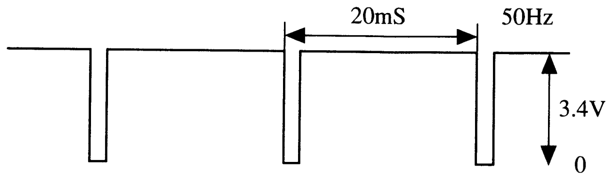
⑦ IC301 Pin (99) (VCLK)
13.5MHz±675Hz
VCD PLAY • NTSC
• PAL
• PAL AUTO
VOLT/DIV: 1V
TIME/DIV: 10nS



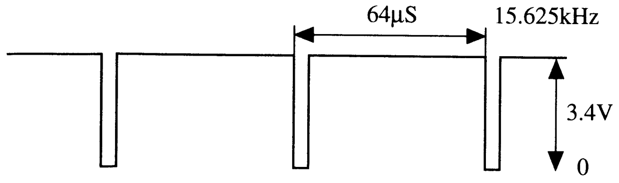
⑧ IC301 Pin (95) (V SYNC)
VCD, PLAY
TV MODE: • NTSC
• PAL AUTO
VOLT/DIV: 1V
TIME/DIV: 10nS



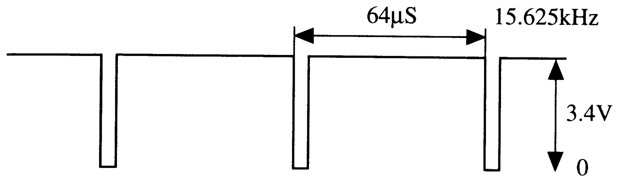
VCD, PLAY
TV MODE: • PAL



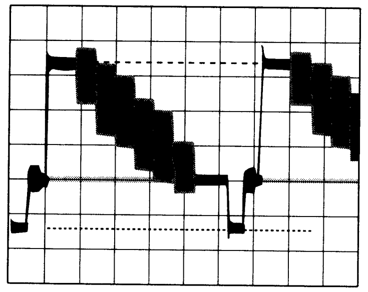
⑨ IC301 Pin (96) (H SYNC)
VCD, PLAY
TV MODE: • NTSC
• PAL AUTO



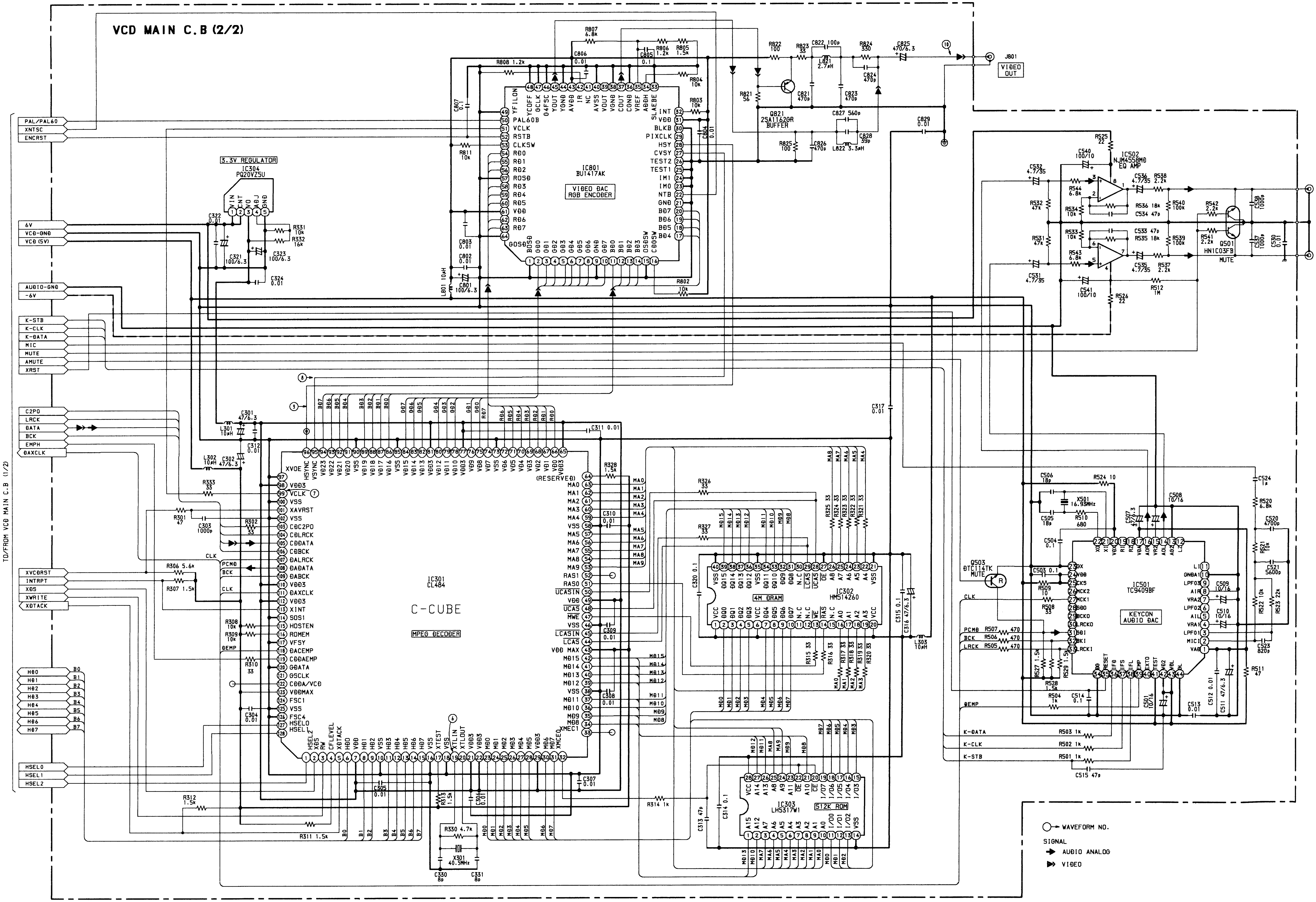
VCD, PLAY
TV MODE: • PAL



⑩ VIDEO OUT (C825 ⊖ side)
VCD PLAY: CD-T05 TRACK4
TV MODE: • NTSC
VOLT/DIV: 200mV
TIME/DIV: 10μS



SCHEMATIC DIAGRAM-2



VCD MAIN C.B (2/2)
TO/FROM VCD MAIN C.B (1/2)
PAL/PAL60
XNTSC
ENCRST
6V
VCD-GND
VCD (5V)
AUDIO-GND
-6V
K-STB
K-CLK
K-DATA
MIC
MUTE
AMUTE
XRST
C2PO
LRCK
DATA
BCK
EMPH
DAXCLK
XVCDRST
INTRPT
XDS
XWRITE
XDTACK
HD0
HD1
HD2
HD3
HD4
HD5
HD6
HD7
HSEL0
HSEL1
HSEL2
3.3V REGULATOR
IC304
PQ20VZ5U
IC801
BU1417AK
VIDEO DAC
RGB ENCODER
Q821
2SA1162QR
BUFFER
J801
VIDEO OUT
IC301
CL484
C-CUBE
MPEG DECODER
IC302
HM514260
4M DRAM
IC303
LH5317W1
512K ROM
X301
40.5MHz
IC502
NJM4558MD
EQ AMP
Q501
HN1C03FB
MUTE
J502
AUDIO OUT
R
L
IC501
TC9409BF
KEYCON
AUDIO DAC
Q503
DTC114TK
MUTE
X501
16.93MHz
L821
2.7μH
L822 3.3μH
L301
10μH
L302
10μH
L303
10μH
L801 10μH
WAVEFORM NO.
SIGNAL
AUDIO ANALOG
VIDEO

IC DESCRIPTION

IC, TC9409BF

端子番号	端子名称	I/O	機 能 説 明
1	VDA1	—	ADC電源。
2	MICI	I	MIC入力用LPF入力。
3	LPFO1	O	MIC入力用LPF出力。
4	VRA1	—	ADC基準電圧。
5	AIL	I	ライン入力L-ch用LPF入力。
6	LPFO2	O	ライン入力L-ch用LPF出力。
7	VRA2	—	ADC用基準電源。
8	AIR	I	ライン入力R-ch用LPF入力。
9	LPFO3	O	ライン入力R-ch用LPF出力。
10	GNDA1	—	ADCグランド。
11	LI	I	L-chアナログ加算入力。(未使用時オープン)
12	LZ	O	L-chデジタル入力ゼロ検出。
13	GNDA2	—	DACグランド。
14、16	AOL、AOR	O	DAC出力L-ch、DAC出力R-ch。
15	VR2	—	DAC基準電圧。
17	VDA2	—	DAC電源。
18	RZ	O	R-chデジタル入力ゼロ検出。
19	RI	I	R-chアナログ加算入力。(未使用時オープン)
20	VDX	—	発振部電源。
21	XI	I	発振子接続端子。(256、384、512、768fsのいずれか)
22	XO	O	発振子接続端子。
23	GNDX	—	発振部グランド。
24、42	VDD1、VDD2	—	デジタル電源。
25	CKS	I	マスタクロック選択。(“H”: 256/384fs “L”: 512/768fs)
26	MCK2	O	発振クロック1/2分周出力。
27	MCK1	O	発振クロック出力。
28	SDO	O	デジタルオーディオデータ出力。
29	BCKO	O	ビットクロック出力。
30	LRCKO	O	チャネルクロック出力。
31	SDI	I	デジタルオーディオデータ入力。
32	BCKI	I	ビットクロック入力。
33	LRCKI	I	チャネルクロック入力。
34	GNDD	—	デジタルグランド。
35	$\overline{\text{RESET}}$	I	リセット。(“L”でリセット)
36	IFD	I	マイコンI/Fデータ入力。
37	IFS	I	マイコンI/Fデータシフトクロック入力。
38	IFL	I	マイコンI/Fラッチパルス入力。
39	EMP	I	ディエンファシス設定。(“H”でディエンファシスフィルタON)
40	EXTO	O	拡張出力端子。
41	$\overline{\text{TEST}}$	I	テストモード設定。(通常“H”: 固定)
43	VDL	—	DRAM用デジタル電源。
44	GNDL	—	DRAM用デジタルグランド。

IC, TC9409BF

Pin No.	Pin Name	I/O	Description
1	VDA1	—	ADC power supply.
2	MICI	I	Input to MIC input low-pass filter.
3	LPFO1	O	Output from MIC input low-pass filter.
4	VRA1	—	ADC reference voltage.
5	AIL	I	Input to LINE input L-ch low-pass filter.
6	LPFO2	O	Output from LINE input L-ch low-pass filter.
7	VRA2	—	ADC reference power supply.
8	AIR	I	Input to LINE input R-ch low-pass filter.
9	LPFO3	O	Output from LINE input R-ch low-pass filter.
10	GNDA1	—	ADC ground.
11	LI	I	Input to L-ch analog adder. (Open when not used.)
12	LZ	O	Zero is detected when L-ch digital is input.
13	GNDA2	—	DAC ground.
14, 16	AOL, AOR	O	DAC output L-ch. DAC output R-ch.
15	VR2	—	DAC reference voltage.
17	VDA2	—	DAC power supply.
18	RZ	O	Zero is detected when R-ch digital is input.
19	RI	I	Input to R-ch analog adder. (Open when not used.)
20	VDX	—	Oscillator block power supply.
21	XI	I	Terminal where external oscillator is connected. (Any of 256, 384, 5 12 or 768 fs).
22	XO	O	Terminal where external oscillator is connected.
23	GNDX	—	Oscillator ground.
24, 42	VDD1, VDD2	—	Digital power supply.
25	CKS	I	Master clock selection. (H: 256/384 fs, L: 512/768 fs).
26	MCK2	O	Oscillator clock divided-by-2 output.
27	MCK1	O	Oscillator clock output.
28	SDO	O	Digital audio data output.
29	BCKO	O	Bit clock output.
30	LRCKO	O	Channel clock output.
31	SDI	I	Digital audio data input.
32	BCKI	I	Bit clock input.
33	LRCKI	I	Channel clock input.
34	GNDD	—	Digital ground.
35	$\overline{\text{RESET}}$	I	Reset. (Reset at L).
36	IFD	I	Microprocessor I/F data input.
37	IFS	I	Microprocessor I/F data shift clock input.
38	IFL	I	Microprocessor I/F latch pulse input.
39	EMP	I	De-emphasis setting. (De-emphasis filter ON at H).
40	EXTO	O	Expansion output terminal.
41	$\overline{\text{TEST}}$	I	Test mode setting. (Fixed to normally H).
43	VDL	—	Digital power supply for DRAM.
44	GNDL	—	Digital ground for DRAM.

TEST MODE

● テストモードについて

KARAOKE KEY＋POWER KEYでTEST MODEに入り全灯表示。

FOCUS........PLAY KEYでMODEに入る。
DISC無時→　フォーカスONせずにフォーカスサーチを続ける
DISC有時→　通常PLAY

STOP KEYでフォーカスサーチorPLAY終る。

※ TEST MODE時はDISC CHANGEはしない

1度POWER OFFするとTEST MODEから抜ける。

● How to Enter the Test Mode

Press the KARAOKE key and the POWER key at the same time. Then all indicators turn on.

Press the PLAY key, and the machine enters the focus search or normal play as follows.

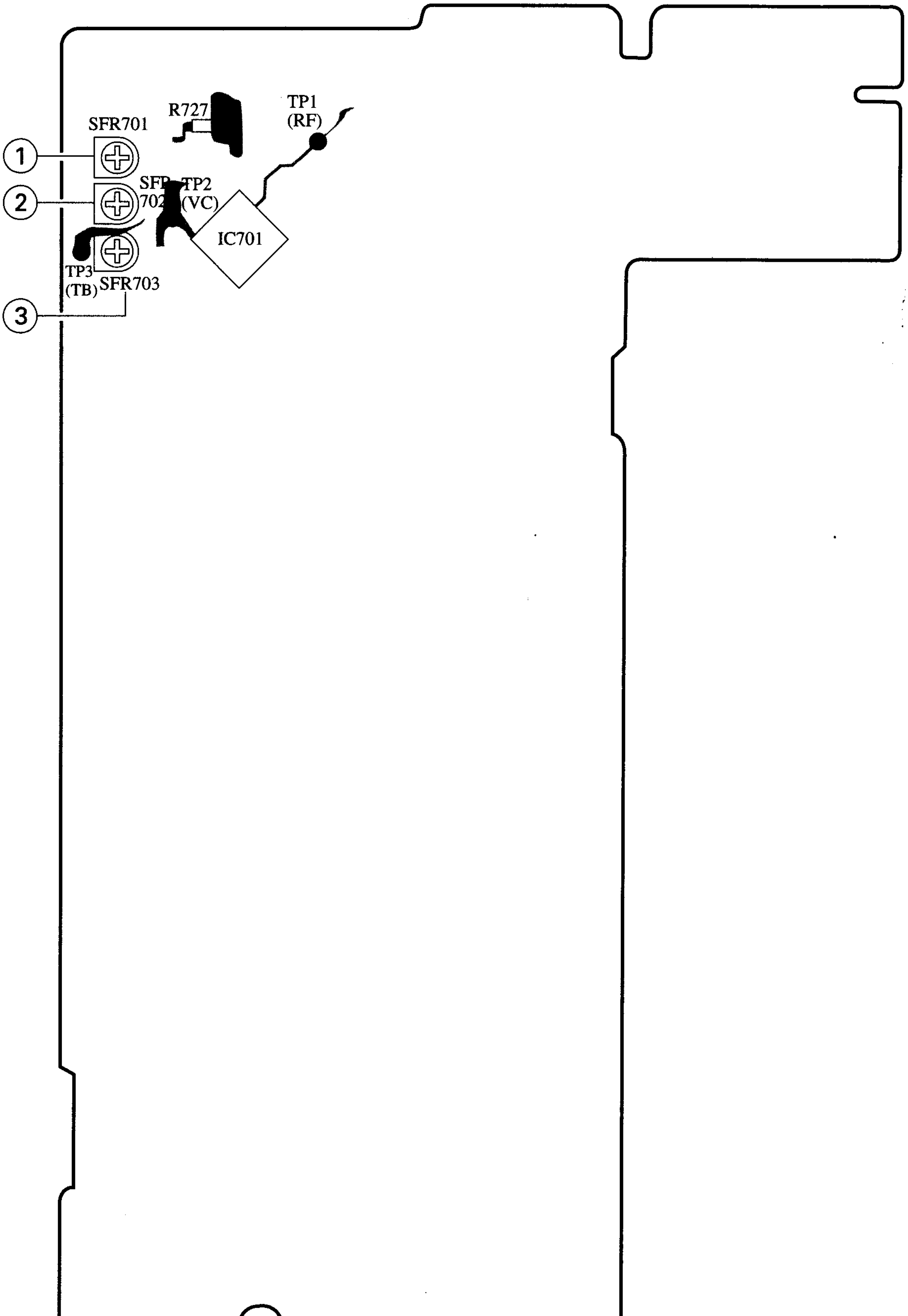
When disk is not inserted:
Focus search is continued without locking-n the focus servo.
When disk is inserted, the machine enters the normal play.

To terminate the focus search or normal play, press the STOP key.

* Do not change discs during the Test mode.

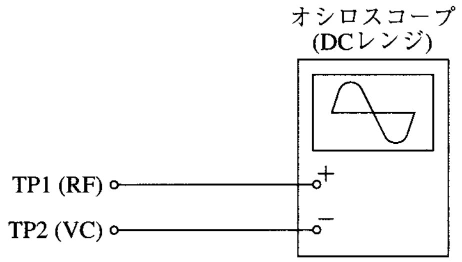
The machine can exit the Test mode by turning off the main power.

VCD MAIN C.B (PATTERN SIDE)

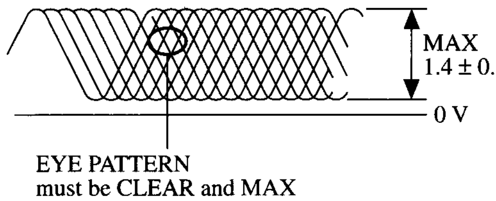

R727
TP1
(RF)
SFR701
①
②
SFR
702
TP2
(VC)
IC701
TP3
(TB)
SFR703
③

注意: ・ (10: 1) のプローブを接続して、調整して下さい。
・ 各調整には、オシロスコープの⊖側をTP2 (VC) に接続して下さい。

1. フォーカスバイアス調整
この調整は、光学系ブロックを交換修理した場合に調整すること。

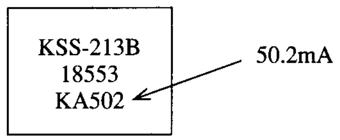


1) テストポイントTP1 (RF)、TP2 (VC) にオシロスコープを接続する。
2) POWERスイッチをONにする。
3) テストディスクTCD-782 (YEDS-18) を入れて2曲目をPLAYさせる。
4) オシロスコープの波形の振幅が最大となり、かつ中央のひし形が、鮮明になるようにSFR701を調整する。



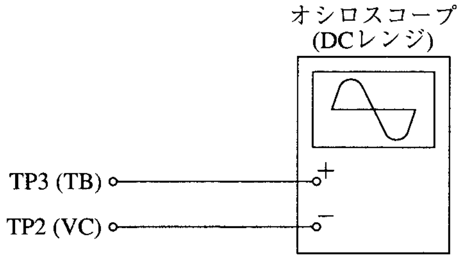
VOLT/DIV: 50mV
TIME/DIV: 0.5 μS

注意: レーザー電流の確認はR727 (10Ω の両端電圧) で行えます。レーザーピックアップの裏側のラベルの電流値に対して±6.0mAに入っていること。

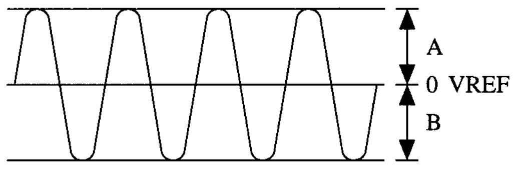


$$\text{レーザー電流Iop} = \frac{\text{R727の両端電圧}}{10\Omega}$$

2. トラッキング・バランス調整



1) テストポイントTP3 (TB)、TP2 (VC) にオシロスコープを接続する。
2) POWERスイッチをONにする。
3) テストディスクTCD-782 (YEDS-18) を入れて、▶PLAY状態にする。
4) SFR703を回しトラッキングゲインを絞る。
5) オシロスコープのトラバース波形が、下図のように上下対称になるようにSFR702を調整する。
6) 調整後、各端子のアースリード線をはずす。



A = B

VOLT/DIV: 20mV
TIME/DIV: 1mS

3. トラッキングゲイン調整
この調整を正確に行うためには、サーボアナライザーが必要です。しかし、このゲインはマージンを持っているため、通常では少し位ずれていてもほとんど問題はありません。したがってこの調整は行わないで下さい。フォーカス/トラッキングゲインは2軸デバイス動作時の機械的雑音と機械的ショックに対するピックアップの追従性を決めています。しかし、これは互いに相反するため、両方を満足する点に調整してあります。

● ゲインを上げると2軸デバイス動作時の雑音が増加する。

● ゲインを下げると機械的ショックに弱くなり音飛びを起こしやすくなる。
そしてゲインの調整がずれていると次頁の様な症状が出ます。

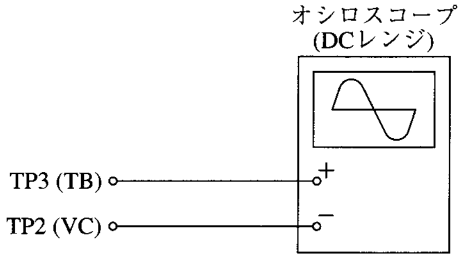
ゲイン 症状	(フォーカス)	トラッキング
● STOP→▶PLAY 時，又は自動選曲時 (⏮, ⏭ ボタンを押したとき) に演奏が始まるまでの時間が長くなる。(通常は2秒位です。)	低い	低い 又は 高い
● STOP→▶PLAY 時，又は自動選曲時 (⏮, ⏭ ボタンを押したとき) に演奏が始まらないでディスクが回転を続ける。	——	低い
● STOP→▶PLAY 時，しばらくすると回転が止まる。	低い又は高い	——
● 演奏中に音がとぎれる。又，タイムカウンターの表示が進まなくなる。	——	低い
● 2軸ディバイス動作時のノイズが多くなる。	高い	高い

なお、簡易調整として下記の方法があります。

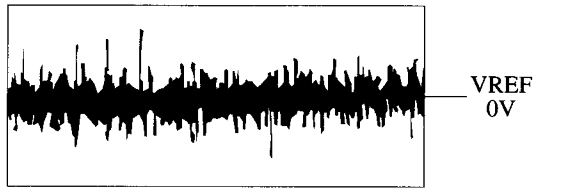
—— 簡易調整 ——

注意: 正確には調整できないため、調整を行う前にボリュームの位置を憶えておいて、簡易調整を行った後のボリュームの位置と比較して、そのずれが少ないときは元のボリュームの位置に戻しておいて下さい。

調整方法:



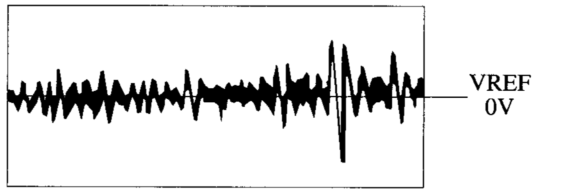
1. セットを水平に置く。
(セットを水平に置かないと2軸デバイスが重力の影響を受け、調整出来ません。)
2. テストディスクTCD-782 (YEDS-18)を入れて2曲目を再生する。
3. オシロスコープをTP3 (TB)、TP2 (VC) に接続する。
4. オシロスコープの波形が下図の波形になるようにSFR703を調整する。(トラッキングゲイン調整)



VOLT/DIV: 50mV
TIME/DIV: 1mS

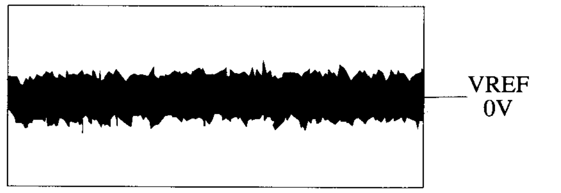
● 悪い例

トラッキングゲインが低い時
(調整されている波形と比べて基本波が表れるようになる。)



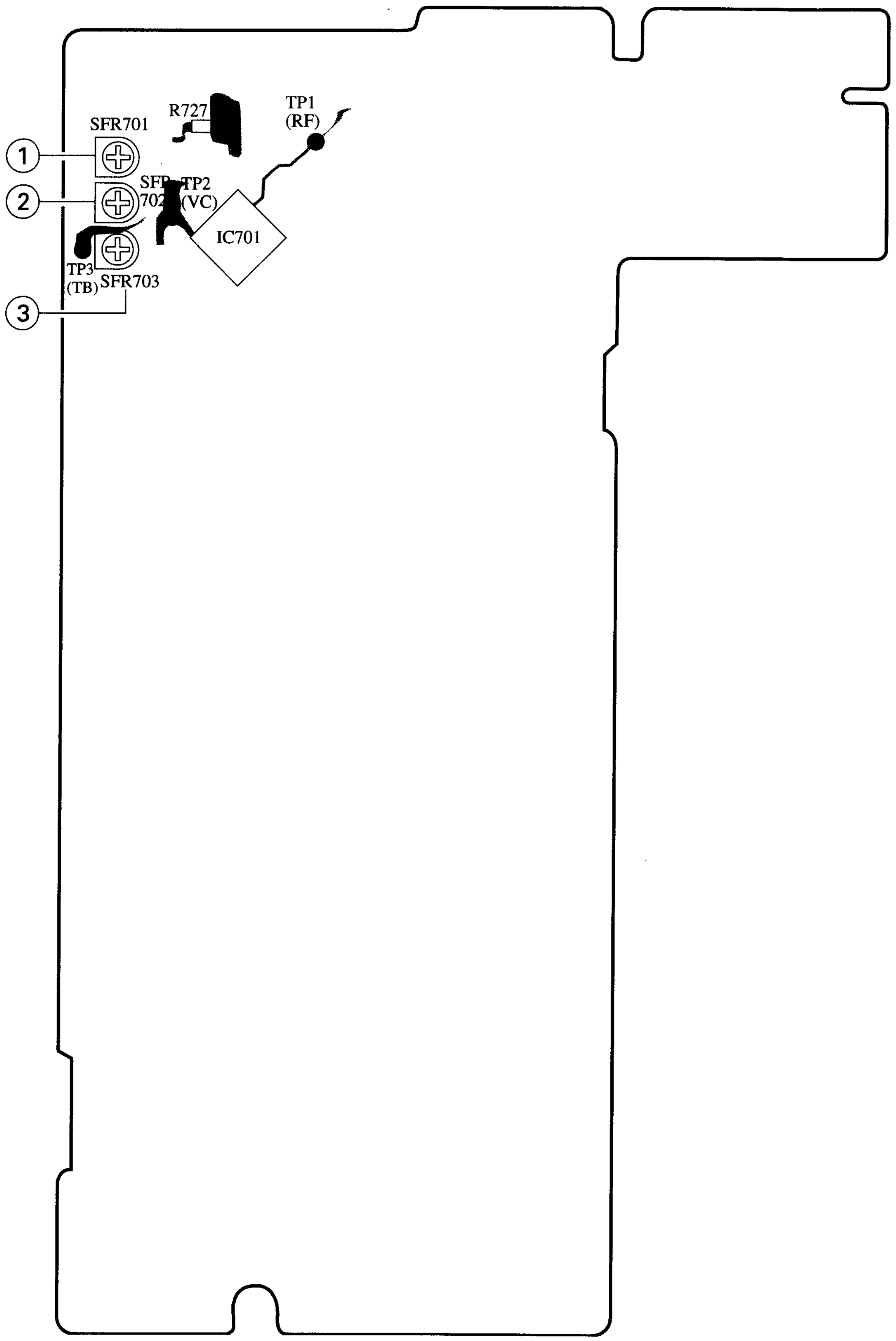
VOLT/DIV: 50mV
TIME/DIV: 1mS

トラッキングゲインが高い時
(ゲインが低い時と比べて基本波が高い)



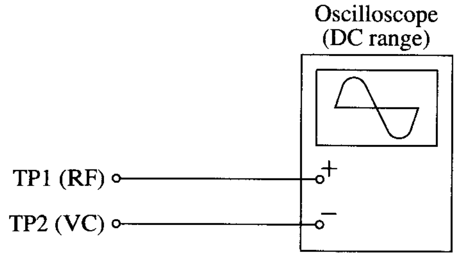
VOLT/DIV: 50mV
TIME/DIV: 1mS

VCD MAIN C.B (PATTERN SIDE)

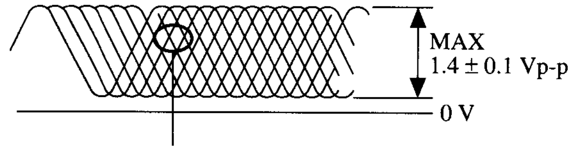


Note:
- Connect a probe (10: 1) of the oscilloscope or the frequency counter to a test point.
- During adjustment, connect (⊖) pin of an oscilloscope to TP2 (VC).

1. Focus Bias Adjustment
   Make the focus bias adjustment when replacing and repairing the optical block.



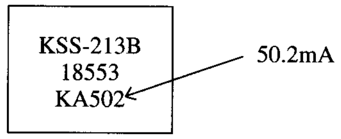
1) Connect an oscilloscope to test points TP1 (RF) and TP2 (VC).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
4) Adjust SFR701 so that RF signal of test point TP1 (RF) is MAX and CLEARREST.



EYE PATTERN
must be CLEAR and MAX

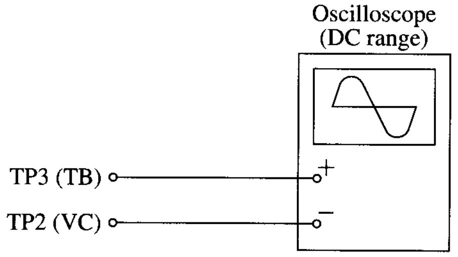
VOLT/DIV: 50mV
TIME/DIV: 0.5µS

Note: The current of the laser signal can be checked with the voltages on both sides of R727 (10Ω). The difference for the specified value shown on the lavel must be within±6.0mA.

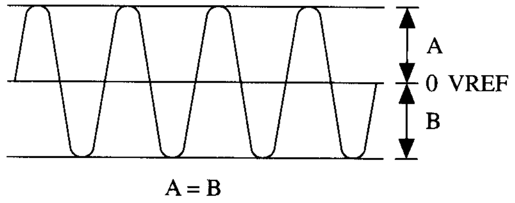


$$\text{Laser current Iop} = \frac{\text{Voltage across R727}}{10\Omega}$$

2. Tracking Balance Adjustment



1) Connect an oscilloscope to test points TP3 (TB) and TP2 (VC).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and press the PLAY button.
4) Adjust SFR703 to decrease the tracking gain..
5) Adjust SFR702 so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
6) After the adjustment is completed, remove the connected lead wires from the terminals.



VOLT/DIV: 20mV
TIME/DIV: 1mS

3. Tracking Gain Adjustment

A servo analyzer is necessary in order to perform this adjustment exactly. However, this gain has a margin, so even if it is slightly off, there is no problem. Therfore, do not perform this adjustment.
Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when 2-axis device operates. However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise increases when the 2-axis device operates.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.
  When the gain adjustment is off, the symptoms below appear.

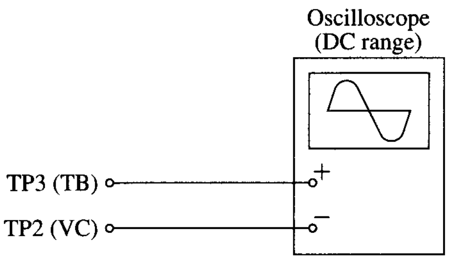
Symptoms \ Gain	(Focus)	Tracking
● The time until music starts becomes longer for STOP → ▶PLAY or automatic selection (⏮, ⏭ buttons pressed.) (Normally takes about 2 seconds.)	low	low or high
● Music does not start and disc continues to rotate for STOP →▶PLAY or automatic selection (⏮, ⏭ buttons pressed.)	———	low
● Disc stops to rotate shortly after STOP →▶PLAY.	low or high	———
● Sound is interrupted during PLAY. Or time counter display stops.	———	low
● More noises during the 2-axis device operation.	high	high

The following is simple adjustment method.

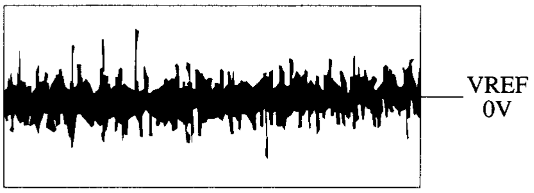
— Simple adjustment —

Note: Since the exact adjustment cannot be performed, remember the positions of the controls before the performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procedure:



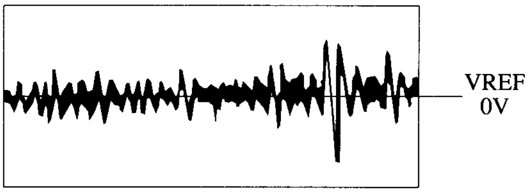
1) Keep the set horizontal. (If the set is not kept horizontally, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
3) Connect an oscilloscope to TP3 (TB), TP2 (VC).
4) Adjust SFR703 so that the waveform appears as shown in the figure below. (tracking gain adjustment)



VOLT/DIV: 50mV
TIME/DIV: 1mS

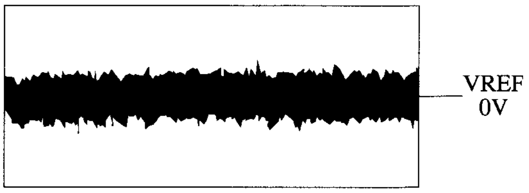
- Incorrect example

Low tracking gain
(The fundamental wave appears as compared with the waveform adjusted.)



VOLT/DIV: 50mV
TIME/DIV: 1mS

High tracking gain
(The frequency of the fundamental wave is higher than that in low gain.)



VOLT/DIV: 50mV
TIME/DIV: 1mS

MODEL NO. 6ZG-1S/S1 (D, F)

ELECTRICAL MAIN PARTS LIST

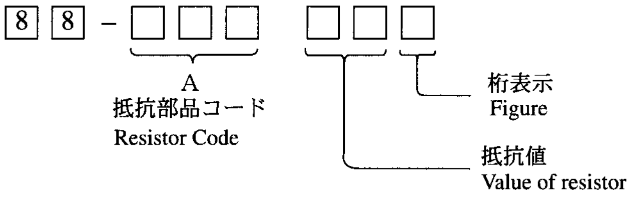
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A20-547-010	1E	C-IC,CXA1992AR
	87-A20-546-010	2A	C-IC,CXD2589Q
	87-A20-592-040	1A	C-IC,M51943 AML
	87-070-305-010	1F	IC,BA6897S
	87-001-982-010	1C	IC,TA7291S
TRANSISTOR			
	89-406-555-080	0E	TR,2SD655 (0.5W)<S>
	87-026-463-080	0E	TR,2SA933S (0.3W)
	89-421-722-380	0E	TR,2SD2172V/W
	89-320-011-080	0E	TR,2SC2001 (15W)
	87-026-239-080	0E	TR,DTC114TK (0.2W)<S1>
	87-026-223-080	0E	TR,DTC143TK<S>
	89-110-155-080	0E	TR,2SA1015(0.4W)
	87-026-608-080	0E	C-TR,DTC 123 JK<F>
	89-327-125-080	0E	CHIP TR,2SC2712GR<D>
DIODE			
	87-020-465-080	0E	DIODE,1SS133 (110MA)
CD MAIN C.B			
C1	87-010-196-020	0E	C-CAP,S 0.1-25 F<S>
C2	87-010-260-080	0E	CAP, ELECT 47-25V<S>
C4	87-010-197-020	0E	C-CAP,S 0.01-25 B<S>
C101	87-010-263-040	0E	CAP,E 100-10
C102	87-010-178-020	0E	C-CAP,S 1000P-50 B
C103	87-010-550-040	0E	CAP,E 100-6.3 GAS
C104	87-010-182-020	0E	C-CAP,S 2200P-50 B
C105	87-010-198-020	0E	C-CAP,S 0.022-25 B
C106	87-016-081-020	0E	C-CAP,S 0.1-16 RK
C107	87-016-081-020	0E	C-CAP,S 0.1-16 RK
C108	87-016-081-020	0E	C-CAP,S 0.1-16 RK
C109	87-010-497-040	0E	CAP,E 4.7-35 GAS
C110	87-016-081-020	0E	C-CAP,S 0.1-16 RK
C111	87-010-197-020	0E	C-CAP,S 0.01-25 B
C112	87-010-402-040	0E	CAP,E 2.2-50 SME
C113	87-010-382-040	0E	CAP,E 22-25 SME
C114	87-010-213-020	0E	C-CAP,S 0.015-25 B
C115	87-010-263-040	0E	CAP,E 100-10
C116	87-010-197-020	0E	C-CAP,S 0.01-25 B
C117	87-016-369-020	0E	C-CAP,S 0.033-25 B K
C118	87-010-197-020	0E	C-CAP,S 0.01-25 B
C119	87-016-369-020	0E	C-CAP,S 0.033-25 B K
C120	87-010-197-020	0E	C-CAP,S 0.01-25 B
C121	87-010-494-040	0E	CAP,E 1-50 GAS
C122	87-010-154-020	0E	C-CAP,S 10P-50 CH
C123	87-010-154-020	0E	C-CAP,S 10P-50 CH
C124	87-010-154-020	0E	C-CAP,S 10P-50 CH
C125	87-010-596-020	0E	C-CAP,S 0.047-16 RK
C126	87-010-596-020	0E	C-CAP,S 0.047-16 RK
C127	87-012-140-020	0E	C-CAP,S 470P-50 CH
C128	87-010-596-020	0E	C-CAP,S 0.047-16 RK
C129	87-010-198-020	0E	C-CAP,S 0.022-25 B
C130	87-016-081-020	0E	C-CAP,S 0.1-16 RK
C131	87-010-550-040	0E	CAP,E 100-6.3 GAS
C132	87-010-550-040	0E	CAP,E 100-6.3 GAS
C133	87-012-158-020	0E	C-CAP,S 390P-50 J CH
C150	87-010-145-020	0E	C-CAP,S 1P-50 C CH
C202	87-010-596-020	0E	C-CAP,S 0.047-16 RK
C203	87-010-188-020	0E	C-CAP,S 6800P-50 B
C204	87-012-156-020	0E	C-CAP,S 220P-50 CH
C205	87-018-134-080	0E	CAPACITOR,TC-U 0.01-16
C206	87-010-400-040	0E	CAP,E 0.47-50
C207	87-010-197-020	0E	C-CAP,S 0.01-25 B
C208	87-010-318-020	0E	C-CAP,S 47P-50 CH<D>
C209	87-012-154-020	0E	C-CAP,S 150P-50 J CH GRM
C210	87-012-154-020	0E	C-CAP,S 150P-50 J CH GRM
C211	87-010-176-020	0E	C-CAP,S 680P-50 J SL
C212	87-010-176-020	0E	C-CAP,S 680P-50 J SL
C213	87-010-382-040	0E	CAP,E 22-25 SME
C214	87-010-382-040	0E	CAP,E 22-25 SME
C215	87-010-318-020	0E	C-CAP,S 47P-50 CH
C216	87-010-318-020	0E	C-CAP,S 47P-50 CH
C217	87-010-380-040	0E	CAP,E 47-16 SME
C218	87-010-197-020	0E	C-CAP,S 0.01-25 B
C219	87-010-196-020	0E	C-CAP,S 0.1-25 F
C220	87-010-370-040	0E	CAP,E 330-6.3 SME
C221	87-010-197-020	0E	C-CAP,S 0.01-25 B
C222	87-010-186-020	0E	C-CAP,S 4700P-50 B
C223	87-016-081-020	0E	C-CAP,S 0.1-16 RK
C226	87-015-785-020	0E	C-CAP,0.1-25 F<S1>
C231	87-018-209-080	0E	CAP, CER 0.1-50V<S>
C401	87-010-403-080	0E	CAP, ELECT 3.3-50V
C402	87-010-403-040	0E	CAP,E 3.3-50 SME
C501	87-016-459-040	0E	CAP,E 470-10 SMG
C502	87-010-197-020	0E	C-CAP,S 0.01-25 B
C503	87-010-263-040	0E	CAP,E 100-10
C504	87-010-196-020	0E	C-CAP,S 0.1-25 F
C505	87-010-196-020	0E	C-CAP,S 0.1-25 F
C506	87-010-196-020	0E	C-CAP,S 0.1-25 F
C507	87-010-196-020	0E	C-CAP,S 0.1-25 F
C508	87-016-459-040	0E	CAP,E 470-10 SMG
C509	87-010-196-020	0E	C-CAP,S 0.1-25 F
C510	87-010-196-020	0E	C-CAP,S 0.1-25 F
C601	87-010-197-020	0E	C-CAP,S 0.01-25 B
C602	87-016-251-040	0E	CAP,E 220-16 SMG
C603	87-010-196-020	0E	C-CAP,S 0.1-25 F
C701	87-010-322-020	0E	C-CAP,S 100P-50 CH
C702	87-010-318-020	0E	C-CAP,S 47P-50 CH
C703	87-010-318-020	0E	C-CAP,S 47P-50 CH
C705	87-010-178-020	0E	C-CAP,S 1000P-50 B
C706	87-018-199-080	0E	CAP, CER 3300P
C901	87-010-260-040	0E	CAP,E 47-25 SME<D>
C902	87-010-196-020	0E	C-CAP,S 0.1-25 F<D>
CN3	86-ZG1-609-010	1D	CONN ASSY,6P
FB1	87-003-223-080	0E	FERRITE BEAD BL02RN2
FB2	87-003-223-080	0E	FERRITE BEAD BL02RN2
FC1	86-ZG1-605-010	1A	CABLE,FFC 16P
FC2	86-ZG1-608-010	1B	CABLE,FFC 8P
L101	87-003-102-080	0E	COIL, 10UH
L201	87-003-102-080	0E	COIL, 10UH
LED901	87-A40-123-010	0E	LED,SLZ-8128A-01-B<D>
M601	87-045-305-010	1F	MOTOR, RF-500TB DC-5V (2MA)
⚠PR1	87-026-689-080	0E	PROTECTOR,1A 60V 491<S>
R101	87-022-363-020	0E	C-RES,S 68K-1/10W F
R102	87-022-363-020	0E	C-RES,S 68K-1/10W F
R103	87-022-363-020	0E	C-RES,S 68K-1/10W F
R104	87-022-363-020	0E	C-RES,S 68K-1/10W F
R105	87-022-365-020	0E	C-RES,S 100K-1/10W F
R106	87-022-365-020	0E	C-RES,S 100K-1/10W F
R420	87-029-060-080	0E	RES,FUSE 33-1/4 W<S>
S601	87-036-109-010	1A	PUSH SWITCH
S602	87-036-109-010	1A	PUSH SWITCH
S603	87-036-109-010	1A	PUSH SWITCH
X201	87-A70-046-010	1B	VIB,XTAL 16.934MHZ
LED C.B<F>			
LED701	87-017-733-080	0E	LED,SEL1250SM
LED702	87-017-350-080	0E	LED,SEL1550CM
LED703	87-017-733-080	0E	LED,SEL1250SM
T-T C.B			
C411	87-018-214-080	0E	CAP TC U 0.1-50F
LED411	87-070-288-010	0E	LED,GL380

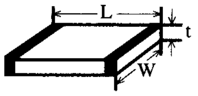
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
M401	87-A90-036-010	1D	MOT ASSY,RF-300CA-11
PS401	87-A90-156-010	1B	SNSR,SG-240
Q411	87-A30-031-010	1A	P-TR,PT380F
S401	87-036-109-010	1A	PUSH SWITCH

○ チップ抵抗部品コード / CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法 / Diamensions (mm)				抵抗コード : A Resistor Code : A
				外形 / Form	L	W	t	
1/16W	1608	5%	CJ		1.6	0.8	0.45	108
1/10W	2125	5%	CJ		2	1.25	0.45	118
1/8W	3216	5%	CJ		3.2	1.6	0.55	128

共通部分は、下記のページを参照して下さい。
Refer to the following pages for the common section.

■ IC BLOCK DIAGRAM

TA7291S 23ページ参照
See page 23

BA6897S 23ページ参照
See page 23

■ MECHANICAL EXPLODED VIEW/PARTS LIST

40ページ参照
See page 40

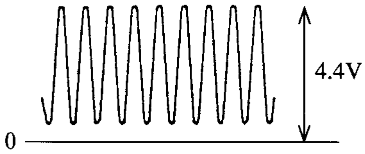
■ CD MECHANISM EXPLODED VIEW/PARTS LIST

42ページ参照
See page 42

WAVE FORM

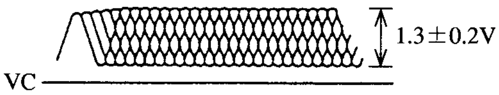
① SYSTEM CLOCK
f=16.9344MHz

VOLT/DIV: 2V
TIME/DIV: 0.1µS



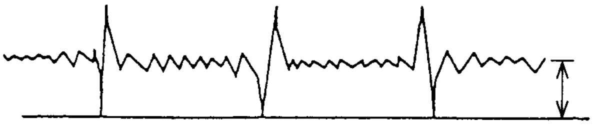
② RF

VOLT/DIV: 500mV
TIME/DIV: 0.5µS



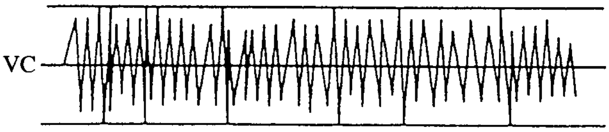
③ FOCUS

VOLT/DIV: 200mV
TIME/DIV: 2mS

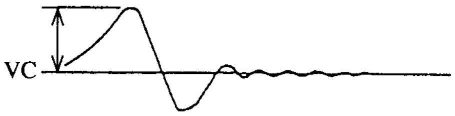


④ TRACKING

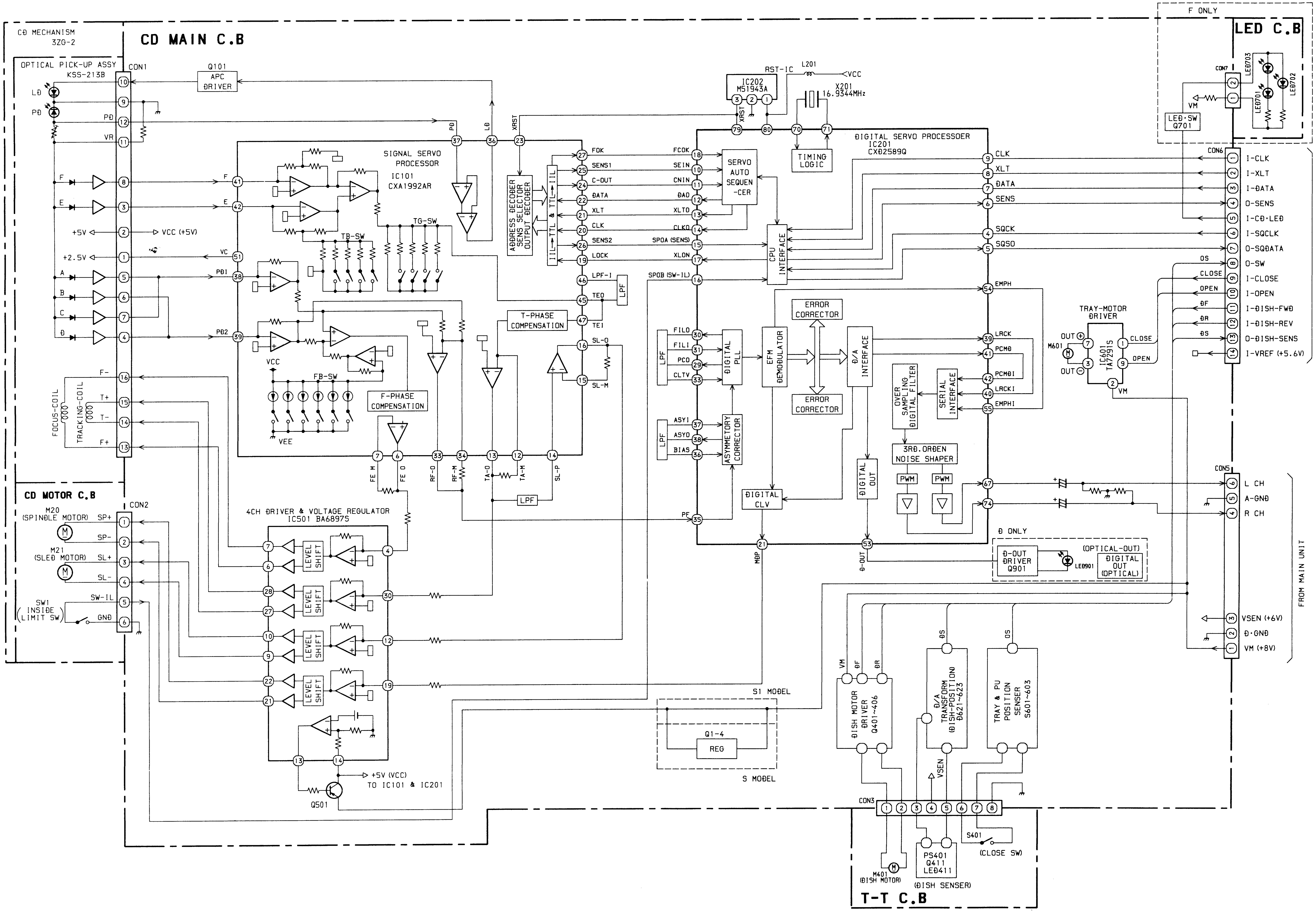
TIME/DIV: 1mS



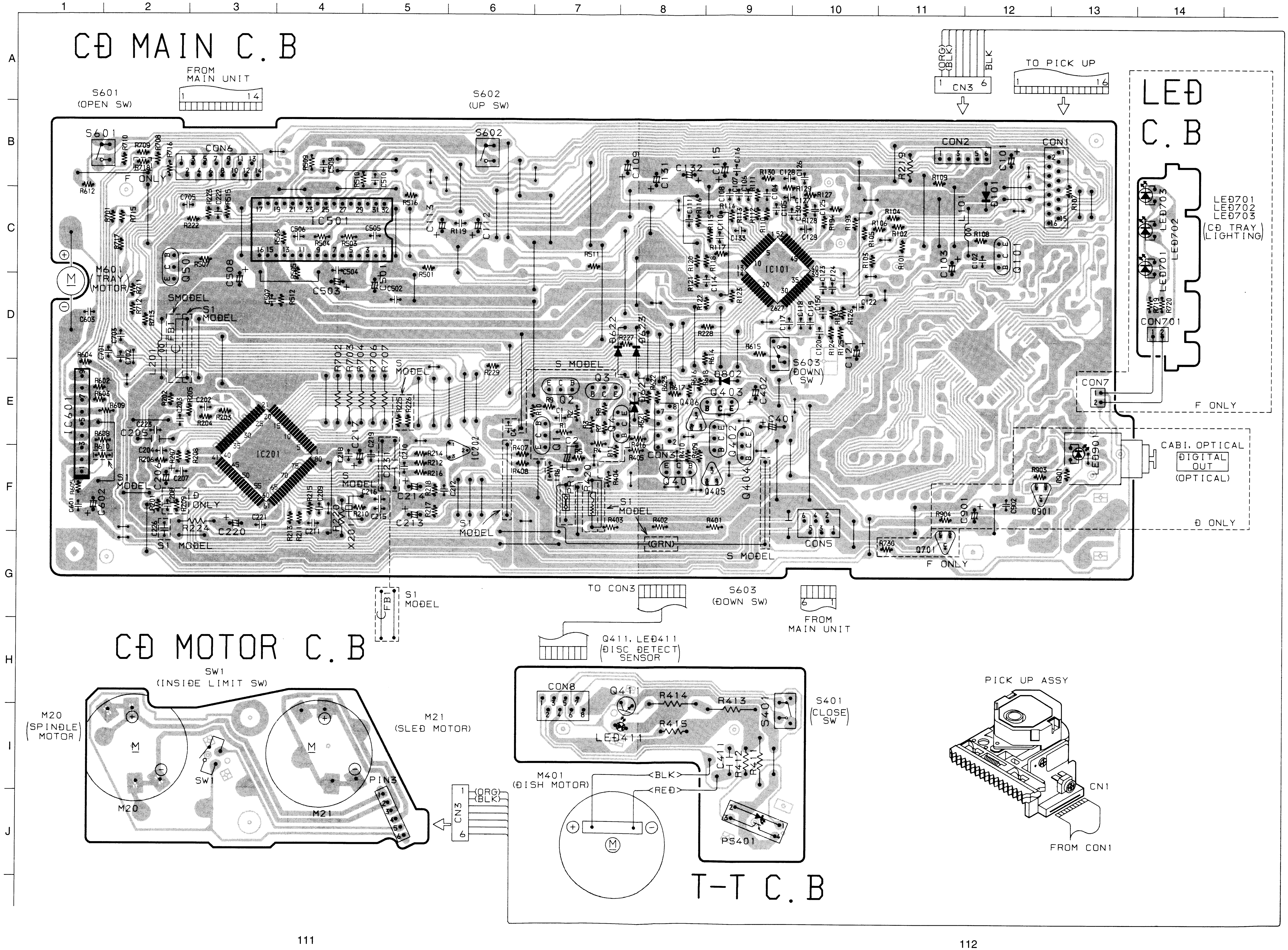
⑤ FOCUS SEARCH



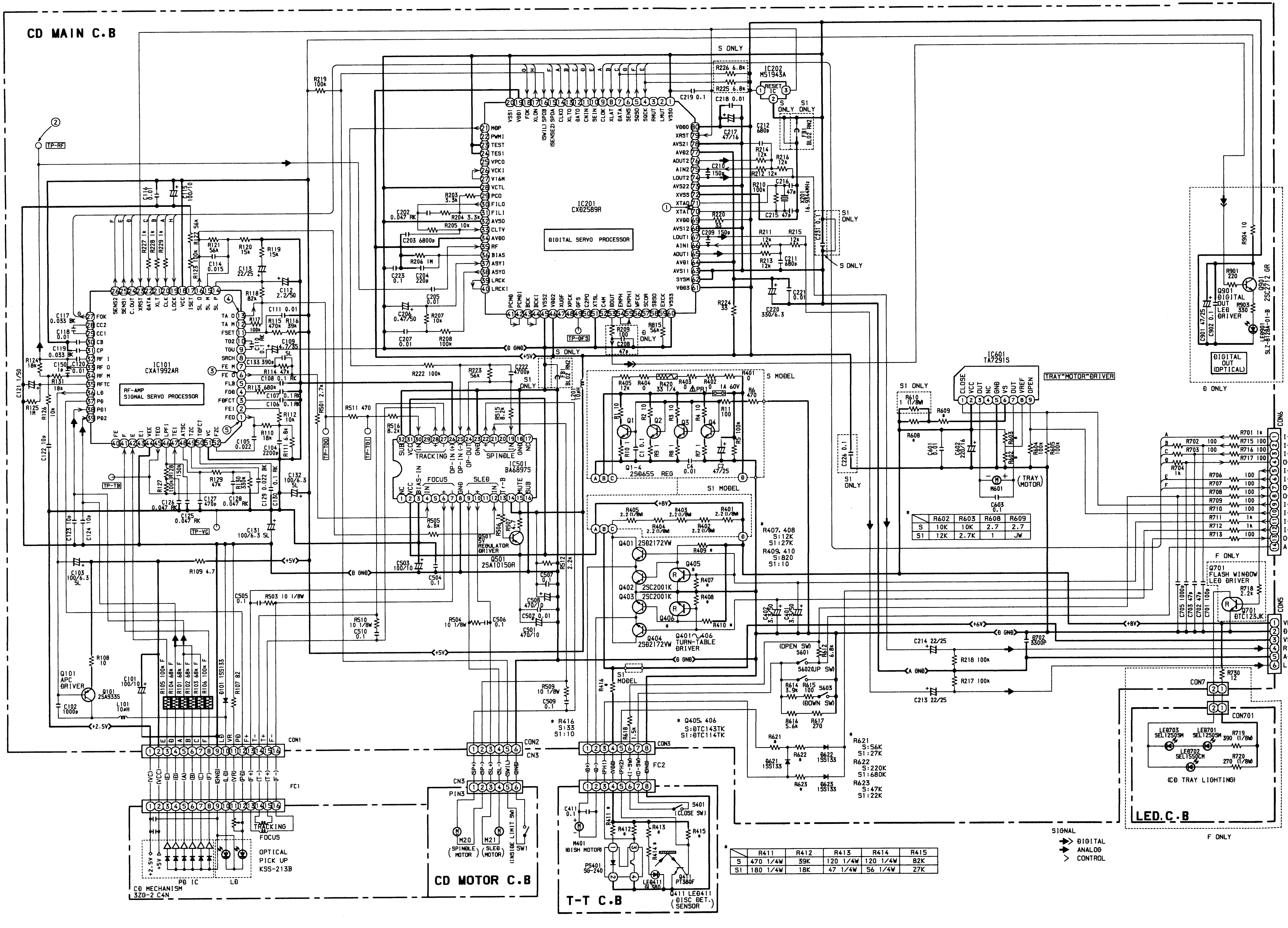
BLOCK DIAGRAM


CD MECHANISM
3ZG-2
CD MAIN C.B
OPTICAL PICK-UP ASSY
KSS-213B
CON1
LD
PD
VR
F
E
A
B
C
D
+5V
VCC (+5V)
+2.5V
F-
T+
T-
F+
FOCUS-COIL
TRACKING-COIL
Q101
APC
DRIVER
SIGNAL SERVO
PROCESSOR
IC101
CXA1992AR
TB-SW
TG-SW
FB-SW
VCC
VEE
F-PHASE
COMPENSATION
T-PHASE
COMPENSATION
ADDRESS DECODER
SENS SELECTOR
OUTPUT DECODER
TTL & IIL
IIL & TTL
FOK
SENS1
C-OUT
DATA
XLT
CLK
SENS2
LOCK
LPF-I
TEO
TEI
SL-O
SL-M
LPF
PD1
PD2
VC
FE M
FE O
RF-O
RF-M
TA-O
TA-M
SL-P
XRST
RST-IC
IC202
M51943A
L201
VCC
X201
16.9344MHz
TIMING
LOGIC
DIGITAL SERVO PROCESSOER
IC201
CXD2589Q
SERVO
AUTO
SEQUEN
-CER
CPU
INTERFACE
FCOK
SEIN
CNIN
DAO
XLTO
CLKO
SPOA (SENS)
XLON
SPOB (SW-IL)
FILO
FILI
PCO
CLTV
DIGITAL
PLL
EFM
DEMODULATOR
ERROR
CORRECTOR
D/A
INTERFACE
OVER
SAMPLING
DIGITAL FILTER
SERIAL
INTERFACE
3RD. ORDER
NOISE SHAPER
PWM
ASY1
ASYO
BIAS
ASYMMETORY
CORRECTOR
DIGITAL
CLV
DIGITAL
OUT
PF
MDP
D-OUT
EMPH
LRCK
PCMD
PCMDI
LRCKI
EMPHI
SQCK
SQSO
SENS
F ONLY
LED C.B
CON7
LED703
LED702
LED701
VM
LED·SW
Q701
CON6
I-CLK
I-XLT
I-DATA
O-SENS
I-CD·LED
I-SQCLK
O-SQDATA
O-SW
I-CLOSE
I-OPEN
I-DISH-FWD
I-DISH-REV
O-DISH-SENS
I-VREF (+5.6V)
DS
CLOSE
OPEN
DF
DR
FROM MAIN UNIT
TRAY-MOTOR
DRIVER
M601
OUT⊕
OUT⊖
IC601
TA7291S
CON5
L CH
A-GND
R CH
D ONLY
(OPTICAL-OUT)
D-OUT
DRIVER
Q901
LED901
DIGITAL
OUT
(OPTICAL)
VSEN (+6V)
D-GND
VM (+8V)
CD MOTOR C.B
CON2
M20
(SPINDLE MOTOR)
SP+
SP-
M21
(SLED MOTOR)
SL+
SL-
SW1
INSIDE
LIMIT SW
SW-IL
GND
4CH DRIVER & VOLTAGE REGULATOR
IC501 BA6897S
LEVEL
SHIFT
+5V (VCC)
TO IC101 & IC201
Q501
S1 MODEL
Q1-4
REG
S MODEL
DISH MOTOR
DRIVER
Q401~406
D/A
TRANSFORM
(DISH-POSITION)
D621~623
TRAY & PU
POSITION
SENSER
S601~603
VSEN
CON3
S401
(CLOSE SW)
PS401
Q411
LED411
M401
(DISH MOTOR)
(DISH SENSER)
T-T C.B

WIRING


CD MAIN C.B
FROM MAIN UNIT
S601 (OPEN SW)
S602 (UP SW)
CN3
(ORG)
(BLK)
BLK
TO PICK UP
LED C.B
LED701
LED702
LED703
(CD TRAY LIGHTING)
CON701
CON7
F ONLY
CON6
CON2
CON1
IC501
IC101
IC201
IC202
IC601
M601 (TRAY MOTOR)
S MODEL
S1 MODEL
D ONLY
S603 (DOWN SW)
CON3
CON5
(GRN)
CABI. OPTICAL
DIGITAL OUT (OPTICAL)
LED901
Q901
Q701
TO CON3
FROM MAIN UNIT
FB1
CD MOTOR C.B
SW1 (INSIDE LIMIT SW)
M20 (SPINDLE MOTOR)
M21 (SLED MOTOR)
PIN3
Q411, LED411 (DISC DETECT SENSOR)
CON8
Q411
LED411
R414
R413
R415
S401 (CLOSE SW)
C411
R412
R411
M401 (DISH MOTOR)
BLK
RED
PS401
T-T C.B
PICK UP ASSY
CN1
FROM CON1
1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J

SCHEMATIC DIAGRAM


CD MAIN C.B
IC101
CXA1992AR
RF-AMP
SIGNAL SERVO PROCESSOR
IC201
CXD2589R
DIGITAL SERVO PROCESSOR
IC202
M51943A
RESET IC
IC501
BA6897S
TRACKING
FOCUS
SPINDLE
SLED
Q501
REGULATOR DRIVER
2SA1015GR
Q101
APC DRIVER
2SA933S
Q1-4
2SD655 REG
S1 MODEL
S MODEL
S ONLY
S1 ONLY
Q401 2SD2172VW
Q402 2SC2001K
Q403 2SC2001K
Q404 2SD2172VW
Q405
Q406
Q401∼406
TURN-TABLE DRIVER
* Q405, 406
S:DTC143TK
S1:DTC114TK
R407, 408
S:12K
S1:27K
R409, 410
S:820
S1:10
* R416
S:33
S1:10
R621
S:56K
S1:27K
R622
S:220K
S1:680K
R623
S:47K
S1:22K
IC601
TA7291S
TRAY MOTOR DRIVER
M601
(TRAY MOTOR)
C603
0.1
Q901
DIGITAL OUT LED DRIVER
2SC2712 GR
LED901
SLZ-8128A-01-B
DIGITAL OUT (OPTICAL)
D ONLY
F ONLY
Q701
FLASH WINDOW LED DRIVER
DTC123JK
CN6
I-CLK
I-XLT
I-DATA
O-SENS
I-CD.LED
I-SQCLK
O-SQDATA
O-SW
I-CLOSE
I-OPEN
I-DISH FWD
I-DISH RVS
O-DISH SENS
AVREF
FROM MAIN UNIT
CN5
VM (+8V)
D-GND
VSEN (+6V)
R CH
A-GND
L CH
FROM MAIN UNIT
CON7
CON701
LED0703 SEL1250SM
LED0701 SEL1250SM
LED0702 SEL1550CM
(CD TRAY LIGHTING)
LED.C.B
(OPEN SW) S601
S602(UP SW)
S603 (DOWN SW)
CON1
CON2
CN3
CON3
FC1
FC2
TRACKING
FOCUS
OPTICAL PICK UP
KSS-213B
PD IC
LD
CD MECHANISM
3ZD-2 C4N
PIN3
M20 (SPINDLE MOTOR)
M21 (SLED MOTOR)
(INSIDE LIMIT SW) SW1
CD MOTOR C.B
S401 (CLOSE SW)
M401 (DISH MOTOR)
PS401 SG-240
LED411 GL380
Q411 PT380F
Q411 LED411 (DISC DET. SENSOR)
T-T C.B
TP-RF
TP-TE
TP-VC
TP-TD
TP-TE1
TP-DFS
SIGNAL
DIGITAL
ANALOG
CONTROL

*

	R602	R603	R608	R609
S	10K	10K	2.7	2.7
S1	12K	2.7K	1	JW

*

	R411	R412	R413	R414	R415
S	470 1/4W	39K	120 1/4W	120 1/4W	82K
S1	180 1/4W	18K	47 1/4W	56 1/4W	27K

IC DESCRIPTION
IC, CXA1992AR

端子番号	端子名称	I/O	機　能　説　明
1	FEO	O	フォーカス·エラーアンプの出力端子です。 内部でバイアス調整用のウィンドウコンパレータ入力に接続されています。
2	FEI	I	フォーカス·エラーの入力端子です。
3	FDFCT	I	ディフェクト時の時定数用コンデンサ接続端子です。
4	FGD	I	フォーカス·サーボの高域ゲインを落とす場合、この端子をコンデンサで接地します。
5	FLB	I	フォーカス·サーボの低域持ち上げ用時定数外付け端子です。
6	FE_O	O	フォーカス·ドライブ出力です。
7	FEM	I	フォーカス·アンプの反転入力端子です。
8	SRCH	I	フォーカス·サーチ波形を作るための時定数外付け端子です。
9	TGU	I	トラッキング高域ゲイン切り換え用時定数外付け端子です。
10	TG2	I	トラッキング高域ゲイン切り換え用時定数外付け端子です。
11	FSET	I	フォーカス·トラッキングの位相補償のピーク設定用端子です。
12	TA_M	I	トラッキング·アンプの反転入力端子です。
13	TA_O	O	トラッキングドライブ出力。
14	SL_P	I	スレッド·アンプの非反転入力端子です。
15	SL_M	I	スレッド·アンプの反転入力端子です。
16	SL_O	O	スレッドドライブ出力。
17	ISET	I	フォーカスサーチ、トラックジャンプ、スレッドキックの高さを決める電流を設定します。
18	Vcc	I	＋5V電源供給端子。
19	LOCK	I	“L”でスレッド暴走防止回路が働きます。
20	CLK	I	シリアルデータ転送クロック入力です。
21	XLT	I	ラッチ入力です。
22	DATA	I	シリアルデータ入力です。
23	XRST	I	リセット入力端子“L”でリセットします。
24	C_OUT	O	トラック数カウント用信号出力です。
25	SENS1	O	コマンドにより、FZC、DFCT1、TZC、BALH、TGH、FOH、ATSCなどを出力します。
26	SENS2	O	コマンドにより、DFCT2、MIRR、BALL、TGL、FOLなどを出力します。
27	FOK	O	フォーカスOKコンパレータの出力端子です。
28	CC2	I	DEFECTボトム·ホールド出力が容量結合されて入力される入力端子です。
29	CC1	O	DEFECTボトム·ホールド出力端子です。
30	CB	I	DEFECTボトム·ホールドコンデンサ接続端子です。
31	CP	I	MIRRホールド·コンデンサの接続端子です。かつ、MIRRコンパレータの非反転入力端子です。
32	RF_I	I	RFサミングアンプの出力が容量結合されて入力される入力端子です。
33	RF_O	O	RFサミングアンプの出力端子です。(EYEパターンのチェックポイント)
34	RF_M	I	RFサミングアンプの反転入力端子です。 この端子とRFO端子間に接続された抵抗でRFアンプのゲインが決まります。
35	RFTC	I	RFレベルコントロール時の時定数外付け端子です。
36	LD	O	APCアンプの出力端子です。
37	PD	I	APCアンプの入力端子です。
38、39	PD1、PD2	I	RF I-Vアンプの反転入力端子です。光学ピックアップのA+C、B+D端子に接続して電流入力で受けます。
40	FEBIAS	I/O	フォーカス·エラーアンプのバイアス調整用端子です。自動調整する場合、OPEN。
41、42	F、E	I	F、EのI-Vアンプの反転入力端子です。光学ピックアップのF、Eに接続して電流入力で受けます。
43	EI	—	I-VアンプEのゲイン調整用端子です。
44	VEE	—	GND接続端子。
45	TEO	O	トラッキング·エラーアンプの出力端子です。E-F信号が出力されます。
46	LPFI	I	BAL調整用コンパレータ入力端子です。
47	TEI	I	トラッキング·エラーの入力端子です。
48	ATSC	I	ATSC検出用ウインドウコンパレータ入力端子です。
49	TZC	I	トラッキング·ゼロクロスコンパレータの入力端子です。
50	TDFCT	I	ディフェクト時の時定数用コンデンサ接続端子。
51	VC	O	(VCC＋VEE) /2 の直流電圧出力端子です。
52	FZC	I	フォーカス · ゼロクロスコンパレータの入力端子です。

IC, CXD2589Q

端子番号	端子名称	I/O	機　能　説　明
1、20、45、60	VSS	—	GND。
2	LMUT	O	Lch・“0”検出フラグ。
3	RMUT	O	Rch・“0”検出フラグ。
4	SQCK	I	SQSOリード・アウト用クロック入力。
5	SQSO	O	SubQ 80bitのシリアル出力。
6	SENS	O	SENS出力　CPUへ出力。
7	DATA	I	CPUよりシリアルデータ入力。
8	XLAT	I	CPUよりラッチ入力　立ち下がりでシリアルデータをラッチ。
9	CLOK	I	CPUよりシリアルデータ転送クロック入力。
10	SEIN	I	SSPよりセンス入力。
11	CNIN	I	トラックジャンプ数カウント信号入力。
12	DATO	O	SSPへシリアルデータ出力。
13	XLTO	O	SSPへシリアルデータラッチ出力　立ち下がりでラッチ。
14	CLKO	O	SSPへシリアルデータ転送クロック出力。
15	SPOA	I	マイコン拡張インタフェース。(入力A)
16	SPOB	I	マイコン拡張インタフェース。(入力B)
17	XLON	O	マイコン拡張インタフェース。(出力)
18	FOK	I	フォーカスOK入力端子。SENS出力とサーボ・オートシーケンサに使用。
19、46、61、80	VDD	—	電源。(+5V)
21	MDP	O	スピンドルモータのサーボ制御。
22	PWMI	I	スピンドルモータの外部制御入力。
23	TEST	I	TEST用端子　通常GND。
24	TESI		
25	VPCO	O	広帯域EFM PLL用チャージポンプ出力。
26	VCKI	I	広帯域EFM PLL用VCO2発振入力。
27	V16M	O	広帯域EFM PLL用VCO2発振出力。
28	VCTL	I	広帯域EFM PLL用VCO2コントロール電圧入力。
29	PCO	O	マスタPLL用チャージポンプ出力。
30	FILO	O	マスタPLL用 (スレーブ=デジタルPLL) フィルタ出力。
31	FILI	I	マスタPLL用フィルタ入力。
32	AVSS	—	アナログGND。
33	CLTV	I	マスタ用VCOコントロール電圧入力。
34	AVDD	—	アナログ電源。(+5V)
35	RF	I	EFM信号入力。
36	BIAS	I	アシンメトリー回路定電流入力。
37	ASYI	I	アシンメトリーコンパレート電圧入力。
38	ASYO	O	EFMフルスイング出力。(L=VSS、H=VDD)
39	LRCK	O	D/Aインタフェース　LRクロック出力 f=Fs。
40	LRCKI	I	LRクロック入力。
41	PCMD	O	D/Aインタフェース　シリアルデータ出力。(2's COMP、MSBファースト)
42	PCMDI	I	D/Aインタフェース　シリアルデータ入力。(2's COMP、MSBファースト)
43	BCK	O	D/Aインタフェース　ビットクロック出力。
44	BCKI	I	D/Aインタフェース　ビットクロック入力。
47	XUGF	O	XUGF出力、コマンドによる切り換えでMNT1、RFCK出力。
48	XPCK	O	XPLCK出力、コマンドによる切り換えでMNT0出力。
49	GFS	O	GFS出力、コマンドによる切り換えでMNT3、XRAOF出力。
50	C2PO	O	C2PO出力、コマンドによる切り換えでGTOP出力。
51	XTSL	I	X'tal選択入力端子　X'talが16.9344MHzの時“L”　33.8688MHzの時“H”。
52	C4M	O	4.2336MHz出力　CAV-Wモード時はVCKIの1/4分周が出力。
53	DOUT	O	Digital Out出力端子。
54	EMPH	O	再生Discがエンファシス有りの時“H”出力　無しの時“L”出力。
55	EMPHI	I	ディエンファシスONの時“H”入力　OFFの時“L”入力。
56	WFCK	O	WFCK出力。
57	SCOR	O	サブコードシンクS0かS1どちらか検出された時“H”出力。
58	SESO	O	SubP～Wのシリアル出力。
59	EXCK	I	SBSOリード・アウト用クロック入力。
62	SYSM	I	ミュート入力端子“H”の時アクティブ。
63	AVSS	—	アナログGND。
64	AVDD	—	アナログ電源。(+5V)
65	AOUT1	O	Lch・アナログ出力端子。
66	AINI	I	Lch・OPAMP入力端子。
67	LOUT1	O	Lch・LINE出力端子。
68	AVSS	—	アナログGND。
69	XVDD	—	マスタクロック用電源。
70	XTAI	I	水晶発振回路入力端子。マスタクロックを外部から入力する場合この端子から入力。
71	XTAO	O	水晶発振回路出力端子。
72	XVSS	—	マスタクロック用GND端子。
73	AVSS	—	アナログGND。
74	LOUT2	O	Rch・LINE出力端子。
75	AIN2	I	Rch・OPAMP入力端子。
76	AOUT2	O	Rch・アナログ出力端子。
77	AVDD	—	アナログ電源。(+5V)
78	AVSS	—	アナログGND。
79	XRST	I	システムリセット　Lでリセット。

注)
- PCMDは、MSBファーストの2'sコンプリメント出力です。
- GTOPは、Frame Syncの保護状況をモニタするものです。(“H”：シンク保護ウインドウ開放)
- XUGFは、EFM信号から得られたFrame Syncで、ネガティブパスルです。シンク保護前の信号。
- XPLCKは、EFM PLLのクロックの反転。立ち下がりエッジとEFM信号の変化点が、合うようにPLLが作られています。
- GFSは、Frame Syncと内挿タイミングが一致した時“H”となる信号です。
- RFCKは、X'tal精度で作られる136μ周期の信号 (通常速時) です。
- C2POは、Dataのエラー状態を表す信号です。
- XRAOFは、16K RAMが、±4Fのジッタマージンを超えた時、発生する信号です。

IC, CXA1992AR

Pin No.	Pin Name	I/O	Description
1	FEO	O	Output terminal for focus error amplifier. Internally connected to window comparator input for bias condition.
2	FEI	I	Input terminal for focus error.
3	FDFCT	I	Capacitor connection terminal for time constant used when there is defect.
4	FGD	I	This pin is connected to GND via capacitor when high frequency gain of the focus servo is attenuated.
5	FLB	I	This is a pin where the time constant is externally connected to raise the low frequency gain of the focus servo.
6	FE_O	O	Focus drive output.
7	FEM	I	Focus amplifier inverted input pin.
8	SRCH	I	This is a pin where the time constant is externally connected to generate the focus search waveform.
9	TGU	I	This is a pin where the selection time constant is externally connected to set the tracking servo the high frequency gain.
10	TG2	I	This is a pin where the selection time constant is externally connected to set the tracking high frequency gain.
11	FSET	I	Pin for setting peak of the phase compensator of the focus tracking.
12	TA_M	I	Tracking amplifier inverted input pin.
13	TA_O	O	Tracking drive output.
14	SL_P	I	Sled amplifier non-inverted input pin.
15	SL_M	I	Sled amplifier inverted input pin.
16	SL_O	O	Sled drive output.
17	ISET	I	The current which determines height of the focus search, track jump and sled kick is input with external resistance connected.
18	Vcc	I	Power supply.
19	LOCK	I	“L” setting starts sled disorder-prevention circuit. (Not pull-up resistance)
20	CLK	I	Clock input for serial data transfer from CPU. (No pull-up resistance)
21	XLT	I	Latch input from CPU. (No pull-up resistance)
22	DATA	I	Serial data input from CPU. (No pull-up resistance)
23	XRST	I	Reset system at “L” setting. (No pull-up resistance)
24	C_OUT	O	Signal output for track number counting.
25	SENS1	O	FZC, DFCT1, TZC, BALH, TGH, FOH, or ATSC is output depending on the command from CPU.
26	SENS2	O	DFCT2, MIRR, BALL, TGL or FOL is output depending on the command from CPU.
27	FOK	O	Output terminal for focus OK comparator.
28	CC2	I	Input pin where the DEFECT bottom hold output is capacitance coupled.
29	CC1	O	DEFECT bottom-hold output terminal. Internally connected to interruption comparator input.
30	CB	I	Connection terminal for DEFECT bottom-hold capacitor.
31	CP	I	Connection terminal for MIRR hold-capacitor. Anti-reverse input terminal for MIRR comparator.
32	RF_I	I	Input terminal by capacity combination of RF summing amplifier.
33	RF_O	O	Output terminal of RF summing amplifier. Checkpoint of Eye pattern.
34	RF_M	I	Anti-reverse input terminal for RF summing amplifier. The gain of RF amplifier is decided by the connection resistance between RF_M and RFO terminals.
35	RFTC	I	This is a pin where the selection time constant is externally connected to control the RF level.
36	LD	O	APC amplifier output terminal.
37	PD	I	APC amplifier input terminal.
38, 39	PD1, PD2	I	RFI-V amplifier inverted input pin. These pins are connected to the A+C and B+C pins of the optical pickup, receiving by currents input.
40	FEBIAS	I/O	Bias adjustment pin of the focus error amplifier.
41, 42	F, E	I	F and EIV amplifier inverted input pins. These pins are connected to the F and E of the optical pickup, receiving by current input.
43	EI	—	Gain adjustment pin of the I-V amplifier E. (When not in use of BAL automatic adjustment)
44	VEE	—	GND connection pin.
45	TEO	O	Output terminal for tacking-error amplifier. Output E-F signal.
46	LPFI	I	BAL adjustment comparator input pin. (Input through LPF from TEO)
47	TEI	I	Input terminal for tracking error.
48	ATSC	I	Window-comparator input terminal for detecting ATSC.
49	TZC	I	Input terminal for tracking-zero cross comparator.
50	TDFCT	I	Capacitor connection pin for the time constant used when there is defect.
51	VC	O	Output terminal for DC voltage reduced to half of VCC+VEE.
52	FZC	I	Input terminal for focus-zero cross comparator.

IC, CXD2589Q

Pin No.	Pin Name	I/O	Description
1, 20, 45, 60	VSS	—	GND.
2	LMUT	O	Lch-“0” detect flag.
3	RMUT	O	Rch-“0” detect flag.
4	SQCK	I	Clock input for SQSO read out.
5	SQSO	O	SubQ 80 bit serial output.
6	SENS	O	SENS signal output to CPU.
7	DATA	I	Serial data input from CPU.
8	XLAT	I	Latch input from CPU, Latch serial data at fall down.
9	CLOK	I	Clock input to serial data transfer from CPU.
10	SEIN	I	SENS input from SSP.
11	CNIN	I	Numbers of track jump are counted and input.
12	DATO	O	Serial data output to SSP.
13	XLTO	O	Serial-data latch output to SSP. Latch at fall down.
14	CLKO	O	Clock output for serial data transfer to SSP.
15	SPOA	I	Microcomputer expansion interface. (Input A)
16	SPOB	I	Microcomputer expansion interface. (Input B)
17	XLON	O	Microcomputer expansion interface. (Output)
18	FOK	I	Focus OK input terminal. Used for SENS output and servo-auto sequencer.
19, 46, 61, 80	VDD	—	Power supply. (+5V)
21	MDP	O	Servo control for spindle motor.
22	PWMI	I	External control input for spindle motor.
23	TEST	I	TEST terminal. (Connected to GND)
24	TESI	I	TEST terminal. (Connected to GND)
25	VPCO	O	Charge pump output for extensive EFM PLL.
26	VCKI	I	VCO2 oscillator input for extensive EFM PLL.
27	V16M	O	VCO2 oscillator output for extensive EFM PLL.
28	VCTL	I	VCO2 control voltage input for extensive EFM PLL.
29	PCO	O	Charge pump output for master PLL.
30	FILO	O	Filter (slave = digital PLL) output for master PLL.
31	FILI	I	Filter input for master PLL.
32	AVSS	—	Analog GND.
33	CLTV	I	VCO control voltage input for master.
34	AVDD	—	Analog power. (+5V)
35	RF	I	EFM signal input.
36	BIAS	I	Constant current input to asymmetry circuit.
37	ASYI	I	Comparison voltage input to asymmetry circuit.
38	ASYO	O	EFM full-swing output. (L=VSS, H=VDD)
39	LRCK	O	D/A interface, LR clock output f=FS.
40	LRCKI	I	LR clock input.
41	PCMD	O	D/A interface, serial data output. (2’s COMP, MSB first)
42	PCMDI	I	D/A interface, serial data input. (2’s COMP, MSB first)
43	BCK	O	D/A interface bit clock output.
44	BCKI	I	D/A interface bit clock input.
47	XUGF	O	XUGF output, MNT1 or RPCK output by switching command.
48	XPCK	O	XPLCK output, MNT0 output by switching command.
49	GFS	O	GFS output, MNT3 or XRAOF output by switching command.
50	C2PO	O	C2PO output, GTOP output by switching command.
51	XTSL	I	X’tal select input terminal, X’tal: 16.9344MHz = “L” 33.8688MHz = “H”.
52	C4M	O	4.2336MHz output, Output 1/4 divided frequency of VCKI at CAV-W mode.
53	DOUT	O	Digital Out connector output signal.
54	EMPH	O	“H” when the playback disc has emphasis. “L” when it does not.
55	EMPHI	I	De-emphasis ON/OFF, “H” when ON, “L” when OFF.
56	WFCK	O	WFCK output.
57	SCOR	O	H output when the subcode sync S0 or S1 is detected.
58	SESO	O	Serial output for SubP-W.
59	EXCK	I	SBSO read out clock input.
62	SYSM	I	Mute input terminal, Active the “H” setting.
63	AVSS	—	Analogue GND.
64	AVDD	—	Analogue power supply. (+5V)
65	AOUT1	O	Lch/analogue output terminal.
66	AINI	I	Lch/OP AMP input terminal.
67	LOUT1	O	Lch/LINE output terminal.
68	AVSS	—	Analogue GND.
69	XVDD	—	Power supply for master clock.
70	XTAI	I	Input terminal for crystal oscillator circuit. Input external master clock from this terminal.
71	XTAO	O	Output terminal for crystal oscillator circuit.
72	XVSS	—	GND terminal for master clock.
73	AVSS	—	Analogue GND.
74	LOUT2	O	Rch/LINE output terminal.
75	AIN2	I	Rch/OP AMP input terminal.
76	AOUT2	O	Rch/analogue output terminal.
77	AVDD	—	Analogue power supply. (+5V)
78	AVSS	—	Analogue GND.
79	XRST	I	Reset system at “L” setting.

Note)

- PCMD is the two’s complement output with MSB first.
- GTOP monitors the protection status of the Frame Sync. (H: Sync protection window opened).
- XUGF is the Frame Sync negative pulse which is obtained from the EFM signal. This is the signal before the sync protection.
- XPLCK is the inverted signal of the EFM PLL clock. The PLL works so that the fall-down edge and the changed point of the EFM signal agree.
- GFS is the signal that goes “H” when the Frame Sync and the internally inserted timing agree.
- RFCK is the signal having 136 micro-seconds (during normal speed) that is generated to have the same accuracy as X’tal.
- C2PO is the signal indicating the error status of the data.
- XRAOF is the signal that is generated when the 16k RAM goes outside the jitter margin ±4F.

CD TEST MODE

<テストモードにするには>

PROGRAMキーを押しながら、ACコードをコンセントに差します。

<テストモードにはいると>

システムが初期化され、パワーオンします。
テストモード中は、CDブロックの電源は、常にオンしています。
まず始めに [スレッドモード] になります。

<テストモードの種類>

[スレッドモード]

FL表示が全点灯します。「《」「》」キーでピックアップを移動できます。

「□」キーを押すと、[フォーカスモード] になります。
「▷」キーを押すと、[プレイモード] になります。

「《」キーを押すと、スレッドが外周方向に動作します。
「》」キーを押すと、スレッドが内周方向に動作します。
OPEN/CLOSEキーを押すと、トレイの開閉ができます。

[フォーカスモード]

FL表示の全点灯が解除され、通常表示に戻ります。ディスクの有無、フォーカスOK/NGに関係なく、フォーカスサーチを行います。(サーチの回数は無制限、オートシーケンスは使用しません。)
フォーカスが合ってもフォーカスサーボはオンしません。「▷」キーを押すと、[プレイモード] になります。

「《」キーを押すと、トラックナンバーを
−1します。
「》」キーを押すと、トラックナンバーを
+1します。
OPEN/CLOSEキーを押すと、トレイの開閉ができます。
[スレッドモード] になります。

[プレイモード]

FL表示の全点灯が解除され、通常表示に戻ります。
フォーカスサーチ (サーチの回数は無制限) を行い、フォーカスが合うと、フォーカスサーボをオンとなり、通常の演奏モードになります。[プレイモード] 中は、GFSと音飛びは監視しません。
フォーカスが落ちたら、再度フォーカスを合わせます。
「▷」キーでトラッキングとスレッドのサーボをオン／オフできます。

「□」キーを押すと、[スレッドモード] になります。
「▷」キーを押すと、[‖] 表示を点灯／消灯を切り換えます。

[‖] 消灯中は、
CLV-A　トラッキングサーボ　ON
　　　　スレッドサーボ　　　ON

[‖] 点灯中は、
CLV-A　トラッキングサーボ　OFF
　　　　スレッドサーボ　　　OFF
「《」キーを押すと、トラックナンバーを
−1します。
「》」キーを押すと、トラックナンバーを
+1します。
OPEN/CLOSEキーを押すと、トレイの開閉ができます。[スレッドモード] になります。

<テストモードを解除するには>

ACコードを抜く。または、システムをパワーオフする。

下記は全てTEST-MODEのPLAY-MODEの時にのみ実行する。PLAY中にPRGM釦を押すとFocus-BIASの調整値を表示する。その後

- Focus-BIAS

DISC PLAY中RANDOM-KEYを押すとFocus-BIAS設定値を表示する。
⏮ KEYを一回押す度に1STEP DOWNする。
⏭ KEYを一回押す度に1STEP UPする。
設定後PLAY-KEYを押す事により確定し、設定した状態でPLAYする。また、STOP-KEYを押す事により設定値は解除する。

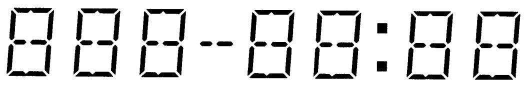
- TRACKING-BALANCE

DISC PLAY中REPEAT-KEYを押すとT-BALANCE設定値を表示する。設定値の変更、確定、解除はFocus-BIASと同様とする。

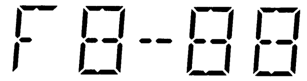
- TRACKING-GAIN

DISC PLAY中DISPLAY-KEYを押すとT-GAIN設定値を表示する。設定値の変更、確定、解除はFocus-BIASと同様とする。

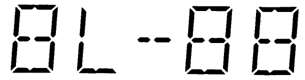
表示方法



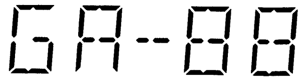
- Focus-BIAS



- TRACKING-BALANCE



- TRACKING-GAIN



< How to Enter the Test Mode >

While pressing the PROGRAM key, insert the AC power cord to AC wall outlet.

< When the Machine Has Entered the Test Mode >

The system is initialized and the main power is turned on. During the test mode, the main power of the CD block is turned on always. The test mode starts with the [Sled mode].

< Types of Test Mode >

[Sled mode]

All displays of the FL tubes light. The optical pickup can be moved by pressing [《] or [》] key.

Pressing the [□] key establishes the [Focus mode].
Pressing the [▷] key establishes the [Play mode].

Pressing the [《] key moves the sled to outer circumference.
Pressing the [》] key moves the sled to inner circumference.
Pressing OPEN/CLOSE key opens or closes the tray.

[Focus mode]

Lighting of all displays of the FL tubes are turned off and returns to normal display. The focus search is performed in the focus mode regardless whether disc is inserted or not, or focus OK or NG. (Numbers of times of focus search is unlimited. Auto sequence is not used.)
Focus servo is not locked in even the focus is obtained.

Pressing the [▷] key establishes the [Play mode].
Pressing the [《] key decreases the track number to -1.
Pressing the [》] key increases the track number to +1.
Pressing OPEN/CLOSE key opens or closes the tray.
The machine enters the [Sled mode].

[Play mode]

Lighting of all displays of the FL tubes are turned off and returns to normal display. The focus search (numbers of search is unlimited) is performed. When focus comes to in-focus, the focus servo is locked in and the machines enters the normal play mode.
During [Play mode], GFS and sound skipping are not monitored.
When focus becomes out-of-focus, another attempt is made to search for focus.
The tracking servo and the sled servo can be turned on and off by pressing the [▷] key.

Pressing the [□] key establishes the [Sled mode].
The [‖] display can be turned on and off by pressing the [▷] key .

While the [‖] display is turned off:
CLV-A　Tracking servo: on
　　　　Sled servo: on
While the [‖] display is turned on:
CLV-A　Tracking servo: off
　　　　Sled servo: off

Pressing the [《] key decreases the track number to -1.
Pressing the [》] key increases the track number to +1.
Pressing OPEN/CLOSE key opens or closes the tray.
The machine enters the [Sled mode].

< How to Exit the Test Mode >

Remove the AC power cord from power outlet, or turn off the system power.

The focus bias, tracking balance and the tracking gain adjustment values can be displayed, modified, set and released in the Play mode only of the following Test mode.
When the PRGM button is pressed during Play, the adjustment value of the focus bias is displayed. After that, you can enter the followings:

- FOCUS - BIAS

[Display]: Pressing the RANDOM key during disc play, the focus bias setting value is displayed.
[Adjustment]: Every pressing of the ⏮ key decrements the adjustment value by 1 step.
Every pressing of the ⏭ key increments the adjustment value by 1 step.
[Set]: The adjustment value is set by pressing the PLAY key after adjustment. Playback a disc after setting.
[Release]: The set value can be released by pressing the STOP key.

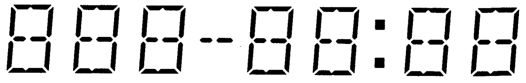
- TRACKING - BALANCE

[Display]: Pressing the REPEAT key during disc play, the tracking balance setting value is displayed.
[Adjustment]: The same procedure as in the FOCUS - BIAS.
[Set]: The same procedure as in the FOCUS - BIAS.
[Release]: The same procedure as in the FOCUS - BIAS.

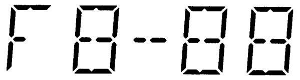
- TRACKING - GAIN

[Display]: Pressing the DISPLAY key during disc play, the tracking balance setting value is displayed.
[Adjustment]: The same procedure as in the FOCUS - BIAS.
[Set]: The same procedure as in the FOCUS - BIAS.
[Release]: The same procedure as in the FOCUS - BIAS.

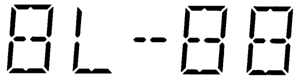
Display method



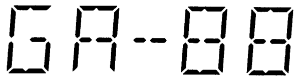
- FOCUS - BIAS



- TRACKING - BALANCE



- TRACKING - GAIN



MODEL NO. 6ZG-1VZ (D, F)

ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A20-446-010	1E	C-IC,LA9241ML
	87-A20-019-010	2P	C-IC,LC78630E
	87-017-825-010	1E	IC,GP1F32T<D>
	87-001-982-010	1C	IC,TA7291S
	87-A20-405-040	1E	C-IC,LA6541
	86-ZG1-630-010	2A	C-IC,LC865632A-5E67
	87-001-792-080	1B	IC,NJM2100M
	87-A20-406-010	2F	C-IC,LC74201NE
	87-A20-549-010	2A	C-IC,LC78011E
	87-A20-583-040	2M	C-IC,HM514260CJ/CLJ-6
	87-A20-557-040	2A	C-IC,LC321667CT-25P
	87-A20-602-040	1B	C-IC,M5291FP
	87-A20-601-010	1C	IC,PQ20RVIE
TRANSISTOR			
	89-110-373-080	0E	CHIP-TR,2SA1037 S
	87-026-223-080	0E	TR,DTC143TK
	89-320-011-080	0E	TR,2SC2001 (15W)
	89-421-722-380	0E	TR,2SD2172V/W
	87-026-608-080	0E	C-TR,DTC 123 JK<F>
	89-327-125-080	0E	CHIP TR,2SC2712GR
	87-026-470-080	1A	TR,HN1C03F (0.3W)
	87-026-580-080	0E	C-TR,DTA123JK
	87-026-467-080	0E	TR,HN1C01F (0.3W)
	87-026-473-080	0E	C-TR HN1A01F GR
	87-026-237-080	0E	CHIP-TR,DTC124XK
	89-213-292-080	0E	TR,2SB1329
	87-A30-117-010	1A	TR,2SA1357
DIODE			
	87-020-027-080	0E	CHIP-DIODE 1SS184
	87-A40-180-040	0E	C-DIODE,SB07-015C
MAIN VCD C.B			
C101	87-016-369-080	0E	C-CAP,S 0.033-25 B K
C102	87-A10-201-080	0E	C-CAP,S0.33-16 KB
C103	87-016-460-080	0E	C-CAP,S 0.22-16 B
C104	87-010-213-080	0E	C-CAP,S 0.015-50 B
C105	87-012-157-080	0E	C-CAP,S 330P-50 CH
C106	87-016-369-080	0E	C-CAP,S 0.033-25 B K
C107	87-010-181-080	0E	CAP,CHIP S 1800P
C109	87-010-198-080	0E	CAP, CHIP 0.022
C110	87-010-178-080	0E	CHIP CAP 1000P
C111	87-016-460-080	0E	C-CAP,S 0.22-16 B
C112	87-016-669-080	0E	C-CAP,S 0.1-25 K B
C113	87-016-083-080	0E	C-CAP,S 0.15-16 RK
C114	87-010-197-080	0E	CAP, CHIP 0.01 DM
C115	87-010-186-080	0E	CAP,CHIP 4700P
C116	87-010-322-080	0E	C-CAP,S 100P-50 CH
C117	87-010-184-080	0E	CHIP CAPACITOR 3300P(K)
C118	87-016-526-080	0E	C-CAP,S 0.47-16 BK
C119	87-010-403-040	0E	CAP,E 3.3-50 SME
C120	87-010-379-040	0E	CAP,E 22-16 M SME
C122	87-010-186-080	0E	CAP,CHIP 4700P
C123	87-010-150-080	0E	C-CAP,S 6P-50 CH
C124	87-010-320-080	0E	CHIP CAP 68P
C126	87-016-669-080	0E	C-CAP,S 0.1-25 K B
C128	87-016-669-080	0E	C-CAP,S 0.1-25 K B
C129	87-010-421-040	0E	CAP,E 4.7-50 5L
C130	87-010-550-040	0E	CAP,E 100-6.3 GAS
C132	87-016-669-080	0E	C-CAP,S 0.1-25 K B
C133	87-016-669-080	0E	C-CAP,S 0.1-25 K B
C134	87-010-549-040	0E	CAP,E 47-6.3 GAS
C135	87-010-498-040	0E	CAP,E 10-16 GAS
C137	87-A10-201-080	0E	C-CAP,S0.33-16 KB
C138	87-016-369-080	0E	C-CAP,S 0.033-25 B K
C139	87-010-805-080	0E	CAP, S 1-16
C140	87-010-178-080	0E	CHIP CAP 1000P
C141	87-016-669-080	0E	C-CAP,S 0.1-25 K B
C142	87-010-374-040	0E	CAP,E 47-10
C143	87-010-549-040	0E	CAP,E 47-6.3 GAS
C144	87-010-498-040	0E	CAP,E 10-16 GAS
C145	87-016-669-080	0E	C-CAP,S 0.1-25 K B
C147	87-016-369-080	0E	C-CAP,S 0.033-25 B K
C148	87-016-669-080	0E	C-CAP,S 0.1-25 K B
C151	87-010-992-080	0E	C-CAP,S 0.047-25 B
C152	87-016-669-080	0E	C-CAP,S 0.1-25 K B
C153	87-016-669-080	0E	C-CAP,S 0.1-25 K B
C154	87-012-154-080	0E	C-CAP,S 150P-50 CH
C155	87-010-374-040	0E	CAP,E 47-10
C156	87-016-669-080	0E	C-CAP,S 0.1-25 K B
C157	87-016-669-080	0E	C-CAP,S 0.1-25 K B
C158	87-010-374-040	0E	CAP,E 47-10
C159	87-010-312-080	0E	C-CAP,S 15P-50 CH
C160	87-010-312-080	0E	C-CAP,S 15P-50 CH
C161	87-016-669-080	0E	C-CAP,S 0.1-25 K B
C162	87-016-669-080	0E	C-CAP,S 0.1-25 K B
C163	87-010-149-080	0E	C-CAP,S 5P-50 CH
C164	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C181	87-016-669-080	0E	C-CAP,S 0.1-25 K B<D>
C182	87-010-374-040	0E	CAP,E 47-10<D>
C223	87-010-386-080	0E	CAP,E330-25 SME
C224	87-010-197-080	0E	CAP, CHIP 0.01 DM
C225	87-010-197-080	0E	CAP, CHIP 0.01 DM
C226	87-010-178-080	0E	CHIP CAP 1000P
C227	87-010-197-080	0E	CAP, CHIP 0.01 DM
C251	87-010-248-040	0E	CAP,E 220-10 SME
C252	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C253	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C255	87-010-403-040	0E	CAP,E 3.3-50 SME
C256	87-010-403-040	0E	CAP,E 3.3-50 SME
C302	87-010-322-080	0E	C-CAP,S 100P-50 CH
C303	87-010-322-080	0E	C-CAP,S 100P-50 CH
C304	87-010-322-080	0E	C-CAP,S 100P-50 CH
C305	87-010-322-080	0E	C-CAP,S 100P-50 CH
C306	87-010-178-080	0E	CHIP CAP 1000P
C307	87-010-374-040	0E	CAP,E 47-10
C308	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C401	87-010-805-080	0E	CAP, S 1-16
C402	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C403	87-010-549-040	0E	CAP,E 47-6.3 GAS
C404	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C405	87-010-318-080	0E	C-CAP,S 47P-50 CH
C406	87-010-318-080	0E	C-CAP,S 47P-50 CH
C407	87-010-321-080	0E	CHIP CAPACITOR,82P(J)
C408	87-010-321-080	0E	CHIP CAPACITOR,82P(J)
C409	87-010-320-080	0E	CHIP CAP 68P
C410	87-010-320-080	0E	CHIP CAP 68P
C411	87-010-320-080	0E	CHIP CAP 68P
C412	87-010-320-080	0E	CHIP CAP 68P
C413	87-010-321-080	0E	CHIP CAPACITOR,82P(J)
C414	87-010-321-080	0E	CHIP CAPACITOR,82P(J)
C415	87-010-404-040	0E	CAP,E 4.7-50 SME
C416	87-010-404-040	0E	CAP,E 4.7-50 SME
C417	87-010-186-080	0E	CAP,CHIP 4700P
C418	87-010-186-080	0E	CAP,CHIP 4700P
C419	87-010-263-040	0E	CAP,E 100-10
C420	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C421	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C501	87-010-197-080	0E	CAP, CHIP 0.01 DM
C502	87-A10-484-080	0E	C-CAP,S 1.0U-10 K B
C503	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C504	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C508	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C509	87-010-314-080	0E	C-CAP,S 22P-50V

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C510	87-010-314-080	0E	C-CAP,S 22P-50V
C511	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C513	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C514	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C515	87-010-314-080	0E	C-CAP,S 22P-50V
C516	87-010-314-080	0E	C-CAP,S 22P-50V
C527	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C531	87-010-197-080	0E	CAP, CHIP 0.01 DM
C532	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C534	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C535	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C537	87-010-371-040	0E	CAP,E 470-6.3
C538	87-010-374-040	0E	CAP,E 47-10
C539	87-010-378-040	0E	CAP,E 10-16
C541	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C542	87-010-374-040	0E	CAP,E 47-10
C543	87-010-374-040	0E	CAP,E 47-10
C545	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C546	87-010-549-040	0E	CAP,E 47-6.3 GAS
C547	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C548	87-010-322-080	0E	C-CAP,S 100P-50 CH
C549	87-010-148-080	0E	CAP, CHIP S 4P-50 CH
C551	87-010-314-080	0E	C-CAP,S 22P-50V
C553	87-012-153-080	0E	C-CAP,S 120P-50 CH
C554	87-010-154-080	0E	CAP CHIP 10P
C555	87-010-197-080	0E	CAP, CHIP 0.01 DM
C556	87-010-318-080	0E	C-CAP,S 47P-50 CH
C557	87-010-318-080	0E	C-CAP,S 47P-50 CH
C558	87-010-197-080	0E	CAP, CHIP 0.01 DM
C601	87-010-263-040	0E	CAP,E 100-10
C602	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C603	87-010-384-040	0E	CAP,E 100-25 SME
C604	87-012-140-080	0E	CAP 470P
C605	87-010-178-080	0E	CHIP CAP 1000P
C606	87-010-178-080	0E	CHIP CAP 1000P
C607	87-010-248-040	0E	CAP,E 220-10 SME
C608	87-010-196-080	0E	CHIP CAPACITOR,0.1-25
C609	87-010-263-040	0E	CAP,E 100-10
C610	87-010-374-040	0E	CAP,E 47-10
C611	87-010-384-040	0E	CAP,E 100-25 SME
C615	87-010-197-080	0E	CAP, CHIP 0.01 DM
C618	87-010-805-080	0E	CAP, S 1-16
CN3	86-ZG1-609-010	1D	CONN ASSY,6P
FC1	86-ZG1-605-010	1A	CABLE,FFC 16P
FC2	86-ZG1-608-010	1B	CABLE,FFC 8P
J501	87-009-502-010	1A	JACK,PIN 1P Y EARTH
L101	87-005-196-080	0E	COIL,10UH
L102	87-005-196-080	0E	COIL,10UH
L501	87-005-196-080	0E	COIL,10UH
L502	87-005-196-080	0E	COIL,10UH

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
L503	87-005-196-080	0E	COIL,10UH
L504	87-005-196-080	0E	COIL,10UH
L511	87-005-207-080	0E	COIL,82UH
L601	87-005-469-080	0E	COIL 4.7UH FLR50
L602	87-A50-095-010	1A	COIL,68UH RCR875D
M601	87-045-305-010	1F	MOTOR, RF-500TB DC-5V (2MA)
R171	87-022-368-080	--	C-RES,S 180K-1/10W F
R172	87-022-366-080	0E	C-RES,S 120K-1/10WF
R173	87-022-366-080	0E	C-RES,S 120K-1/10WF
R174	87-022-366-080	0E	C-RES,S 120K-1/10WF
R175	87-022-366-080	0E	C-RES,S 120K-1/10WF
R176	87-022-368-080	--	C-RES,S 180K-1/10W F
R605	87-022-343-080	0E	C-RES,S 820-1/10W F
R606	87-022-355-080	0E	C-RES,S10K-1/10W F
R607	87-022-339-080	0E	C-RES,S,390-1/10W F
S301	87-036-109-010	1A	PUSH SWITCH
S302	87-036-109-010	1A	PUSH SWITCH
S303	87-036-109-010	1A	PUSH SWITCH
X151	87-030-270-080	1C	VIB,XTAL 16.9344MHZ
X301	87-030-422-080	1A	VIB,CER CST 6.00MGW
X501	80-JUC-601-080	1E	VIB,XTAL 14.31MHZ
X502	80-JUC-602-080	1E	VIB,XTAL 17.73MHZ

LED C.B<F>

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
LED801	87-017-733-080	0E	LED,SEL1250SM<F>
LED802	87-017-733-080	0E	LED,SEL1250SM<F>
LED803	87-017-350-080	0E	LED,SEL1550CM<F>

T-T C.B

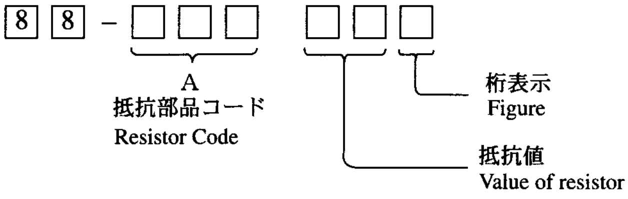
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C411	87-018-214-080	0E	CAP TC U 0.1-50F
LED411	87-070-288-010	0E	LED,GL380
M401	87-A90-036-010	1D	MOT ASSY,RF-300CA-11
PS401	87-A90-156-010	1B	SNSR,SG-240
Q411	87-A30-031-010	1A	P-TR,PT380F
S401	87-036-109-010	1A	PUSH SWITCH

VIDEO SW C.B

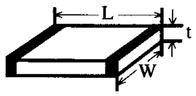
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
S851	87-A90-238-010	1A	SW,SL 1-1-3 9L

○ チップ抵抗部品コード / CHIP RESISTOR PART CODE

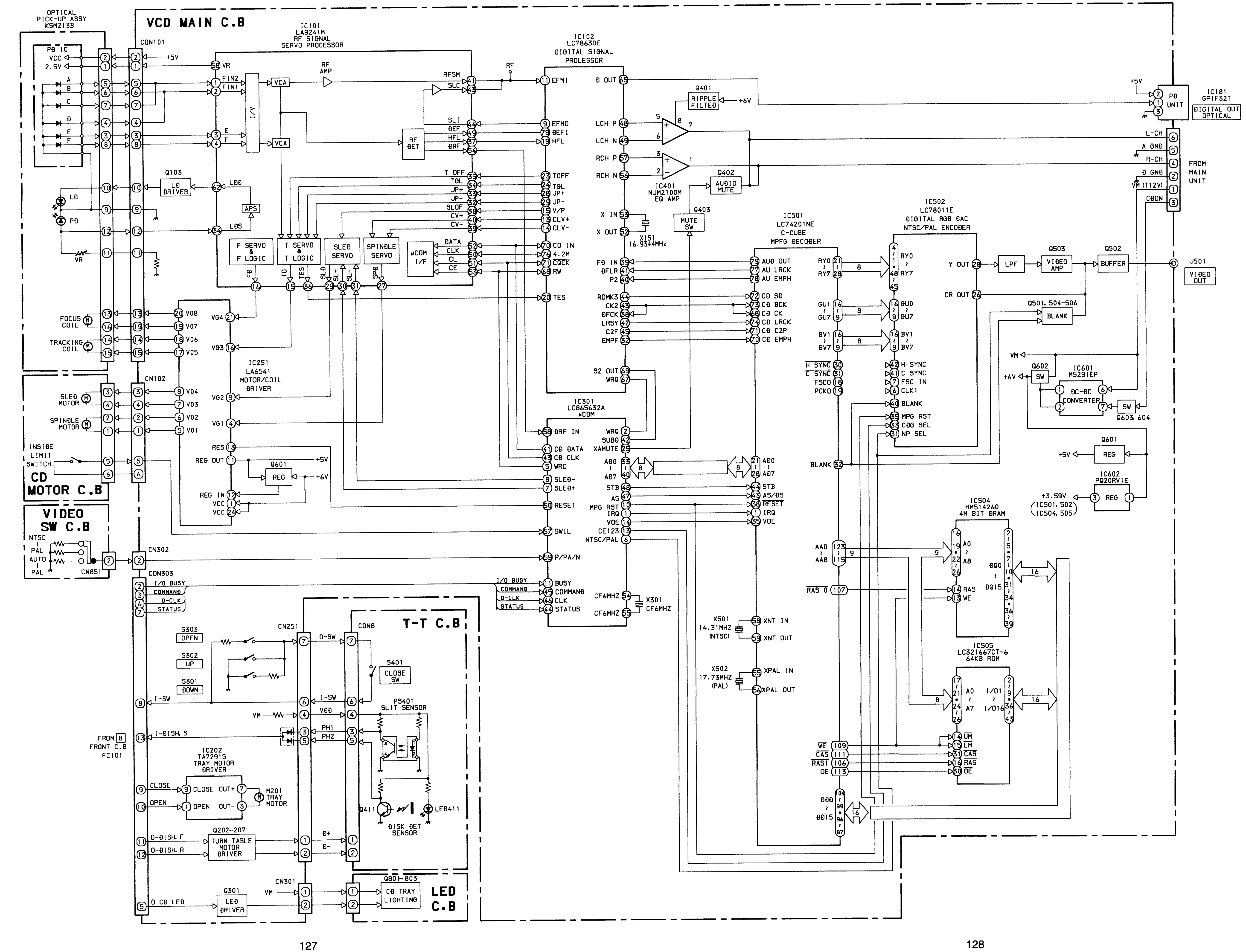
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



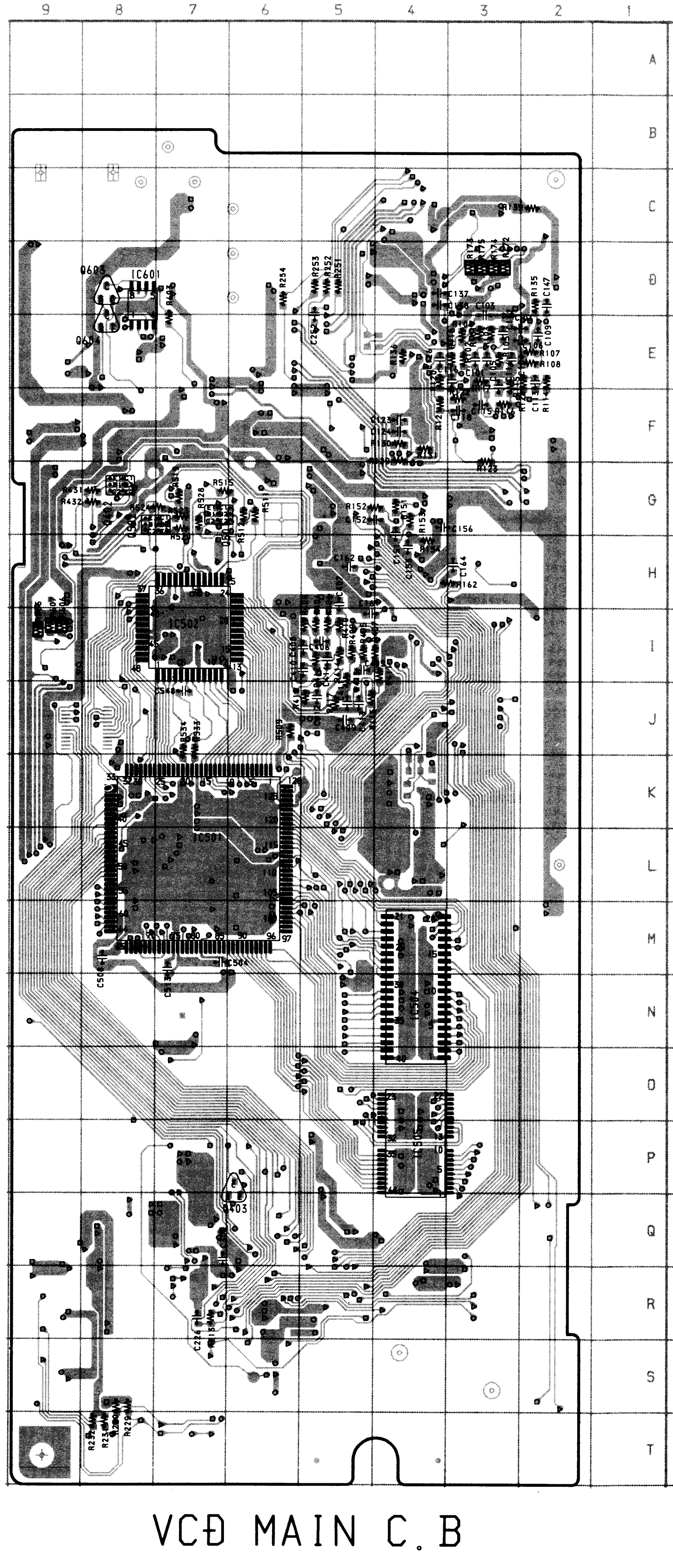
チップ抵抗
Chip resistor

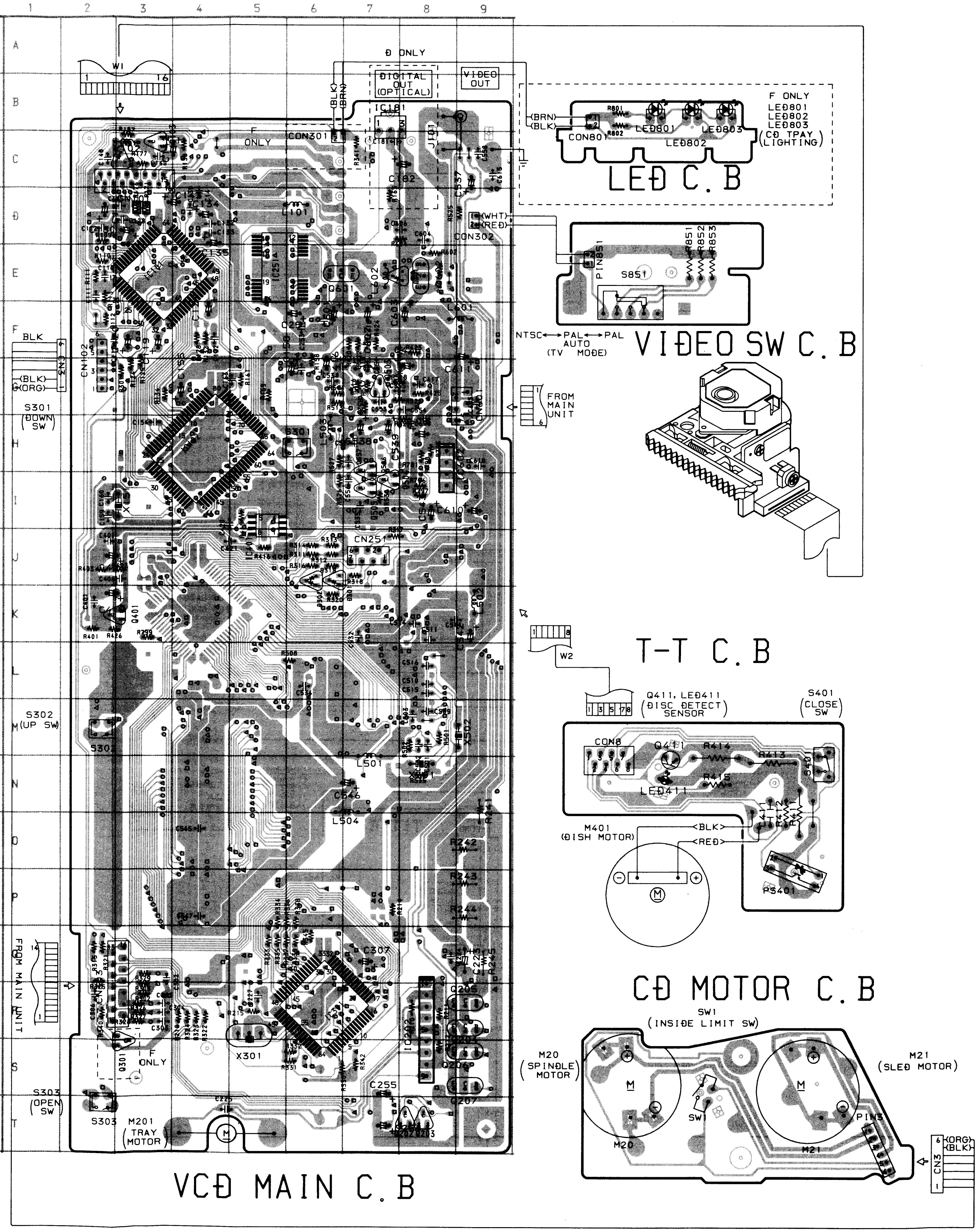
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法 / Diamensions (mm)				抵抗コード :A Resistor Code : A
				外形 / Form	L	W	t	
1/16W	1608	5%	CJ		1.6	0.8	0.45	108
1/10W	2125	5%	CJ		2	1.25	0.45	118
1/8W	3216	5%	CJ		3.2	1.6	0.55	128

BLOCK DIAGRAM

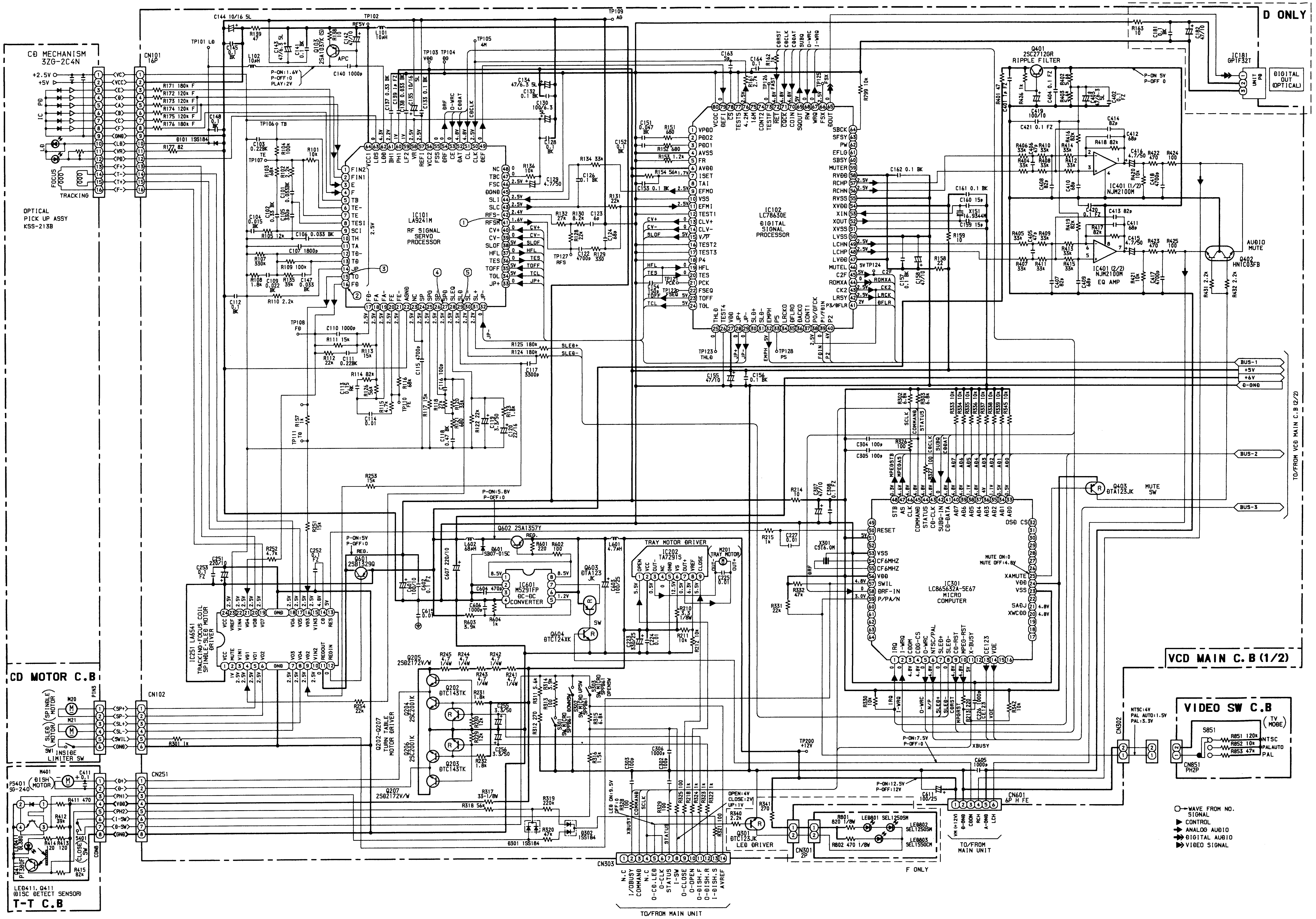


OPTICAL PICK-UP ASSY KSM213B
PD IC
VCC
2.5V
LD
PD
VR
FOCUS COIL
TRACKING COIL
VCD MAIN C.B
CON101
+5V
IC101 LA9241M RF SIGNAL SERVO PROCESSOR
FIN2
FIN1
VCA
I/V
RF AMP
RFSM
SLC
SLI
DEF
HFL
DRF
RF DET
T OFF
TGL
JP+
JP-
SLOF
CV+
CV-
DATA
CLK
CL
CE
Q103 LD DRIVER
APS
F SERVO & F LOGIC
T SERVO & T LOGIC
SLED SERVO
SPINDLE SERVO
μCOM I/F
IC102 LC78630E DIGITAL SIGNAL PROCESSOR
EFMI
EFMO
DEFI
HFL
TOFF
TGL
JP+
JP-
V/P
CLV+
CLV-
CD IN
4.2M
CQCK
RW
TES
D OUT
LCH P
LCH N
RCH P
RCH N
X IN
X OUT
X151 16.9344MHz
FD IN
DFLR
P2
ROMK3
CK2
DFCK
LRSY
C2F
EMPF
S2 OUT
WRQ
Q401 RIPPLE FILTER
+6V
IC401 NJM2100M EQ AMP
Q402 AUDIO MUTE
Q403 MUTE SW
IC251 LA6541 MOTOR/COIL DRIVER
VG4
VG3
VG2
VG1
RES
REG OUT
Q601 REG
REG IN
VCC
CN102
SLED MOTOR
SPINDLE MOTOR
INSIDE LIMIT SWITCH
CD MOTOR C.B
VIDEO SW C.B
NTSC
PAL
AUTO
CN851
CN302
CON303
I/O BUSY
COMMAND
D-CLK
STATUS
IC301 LC865632A μCOM
DRF IN
CD DATA
CD CLK
WRC
SLED-
SLED+
RESET
SWIL
P/PA/N
BUSY
COMMAND
CLK
STATUS
WRQ
SUBQ
XAMUTE
AD0
AD7
STB
AS
MPG RST
IRQ
VOE
CE123
NTSC/PAL
CF6MHZ
X301 CF6MHZ
IC501 LC74201NE C-CUBE MPEG DECODER
AUD OUT
AU LRCK
AU EMPH
CD SD
CD BCK
CD CK
CD LRCK
CD C2P
CD EMPH
AS/DS
XNT IN
XNT OUT
X501 14.31MHZ (NTSC)
X502 17.73MHZ (PAL)
XPAL IN
XPAL OUT
RY0
RY7
GU1
GU7
BV1
BV7
H SYNC
C SYNC
FSCO
PCKO
BLANK
AA0
AA8
RAS 0
WE
CAS
RAS1
OE
DDD
DD15
IC502 LC78011E DIGITAL RGB DAC NTSC/PAL ENCODER
FSC IN
CLK1
MPG RST
CDG SEL
NP SEL
Y OUT
CR OUT
LPF
Q503 VIDEO AMP
Q502 BUFFER
J501 VIDEO OUT
Q501, 504~506 BLANK
VM
+6V
Q602 SW
IC601 M5291EP DC-DC CONVERTER
Q603, 604 SW
Q601 REG
+5V
IC602 PQ20RV1E REG
+3.59V (IC501, 502) (IC504, 505)
IC181 GP1F32T DIGITAL OUT OPTICAL
PD UNIT
L-CH
A GND
R-CH
D GND
VM (T12V)
CDON
FROM MAIN UNIT
IC504 HM514260 4M BIT DRAM
A0
A8
DQ0
DQ15
RAS
WE
IC505 LC321667CT-6 64KB ROM
A0
A7
I/O1
I/O16
UM
LM
CAS
RAS
OE
S303 OPEN
S302 UP
S301 DOWN
CN251
O-SW
I-SW
VDD
PH1
PH2
I-DISH. S
FROM B FRONT C.B FC101
IC202 TA7291S TRAY MOTOR DRIVER
CLOSE
OPEN
OUT+
OUT-
M201 TRAY MOTOR
Q202~207 TURN TABLE MOTOR DRIVER
O-DISH. F
O-DISH. R
D+
D-
CN301
Q301 LED DRIVER
D CD LED
CON8
T-T C.B
S401 CLOSE SW
PS401 SLIT SENSOR
Q411
LED411
DISK DET SENSOR
Q801~803 CD TRAY LIGHTING
LED C.B


9
8
7
6
5
4
3
2
1
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
IC601
Q603
Q604
IC502
IC501
IC504
Q403
VCD MAIN C.B


1
2
3
4
5
6
7
8
9
D ONLY
DIGITAL OUT (OPTICAL)
VIDEO OUT
W1
(BLK)
(BRN)
IC181
J101
CON301
F ONLY
L101
C135
C182
(BRN)
(BLK)
CON801
LED801
LED802
LED803
F ONLY
LED801
LED802
LED803
(CD TRAY LIGHTING)
LED C.B
(WHT)
(RED)
CON302
PIN851
S851
R851
R852
R853
NTSC←→PAL AUTO←→PAL (TV MODE)
VIDEO SW C.B
BLK
CN3
(BLK)
(ORG)
CN102
S301 (DOWN SW)
FROM MAIN UNIT
CN251
Q401
Q601
L601
C410
T-T C.B
W2
Q411, LED411 (DISC DETECT SENSOR)
S401 (CLOSE SW)
CON8
Q411
R414
R413
R415
LED411
M401 (DISH MOTOR)
<BLK>
<RED>
PS401
S302 (UP SW)
S302
L501
C546
L504
R242
R243
R244
FROM MAIN UNIT
CN301
C307
Q203
Q205
Q206
Q207
Q202
IC202
X301
Q301
F ONLY
C255
S303 (OPEN SW)
S303
M201 (TRAY MOTOR)
CD MOTOR C.B
SW1 (INSIDE LIMIT SW)
M20 (SPINDLE MOTOR)
M21 (SLED MOTOR)
M20
SW1
M21
PIN3
CN3
(ORG)
(BLK)
VCD MAIN C.B

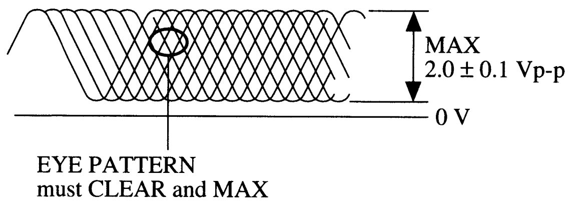
SCHEMATIC DIAGRAM-1



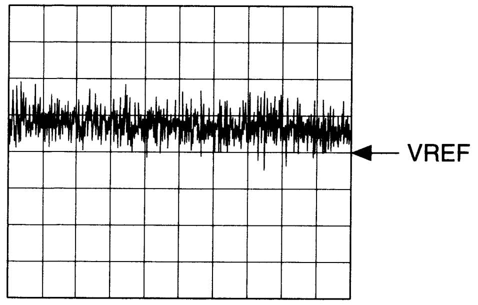
D ONLY
CD MECHANISM
3ZG-2C4N
OPTICAL PICK UP ASSY KSS-213B
FOCUS
TRACKING
CN101 16P
IC101 LA9241M RF SIGNAL SERVO PROCESSOR
IC102 LC78630E DIGITAL SIGNAL PROCESSOR
Q401 2SC2712GR RIPPLE FILTER
IC181 GP1F32T
DIGITAL OUT (OPTICAL)
IC401 (1/2) NJM2100M
IC401 (2/2) NJM2100M EQ AMP
Q402 HN1C03FB
AUDIO MUTE
X151 16.9344M
Q403 DTA123JK MUTE SW
BUS-1
+5V
+6V
D-GND
BUS-2
BUS-3
TO/FROM VCD MAIN C.B (2/2)
IC301 LC865632A-5E67 MICRO COMPUTER
X301 CST6.0M
VCD MAIN C.B (1/2)
IC251 LA6541 TRACKING-FOCUS COIL SPINDLE-SLED MOTOR DRIVER
Q601 2SB1329Q
Q602 2SA1357Y
IC601 M5291FP DC-DC CONVERTER
Q603 DTA123JK
Q604 DTC124XK
TRAY MOTOR DRIVER
IC202 TA7291S
M201 TRAY MOTOR
Q202-Q207 TURN TABLE MOTOR DRIVER
Q205 2SD2172V/W
Q207 2SD2172V/W
Q202 DTC143TK
Q203 DTC143TK
Q204 2SC2001K
Q206 2SC2001K
CD MOTOR C.B
M20 SPINDLE MOTOR
M21 SLED MOTOR
SW1 INSIDE LIMITER SW
CN102
M401 DISH MOTOR
PS401 SG-240
CN251
LED411, Q411 (DISC DETECT SENSOR)
T-T C.B
D301 1SS184
D302 1SS184
Q301 DTC123JK LED DRIVER
LED801 SEL1250SM
LED802 SEL1250SM
LED803 SEL1550CM
CN301 2P
F ONLY
CN303
TO/FROM MAIN UNIT
CN601 6P H FE
TO/FROM MAIN UNIT
CN302
VIDEO SW C.B
S851 (TV MODE)
NTSC
PALAUTO
PAL
CN851 PH2P
NTSC:4V PAL AUTO:1.5V PAL:3.3V
○— WAVE FROM NO. SIGNAL
▶ CONTROL
▶ ANALOG AUDIO
⇒ DIGITAL AUDIO
▶ VIDEO SIGNAL

WAVE FORM

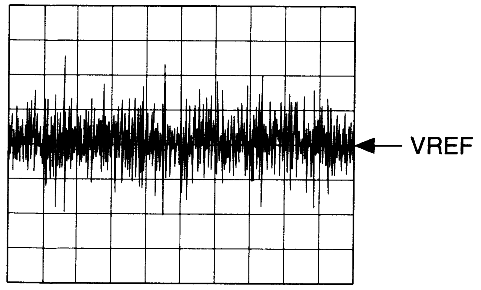
① IC101 Pin ㊶ (RFSM)
VOLT/DIV: 0.5V
TIME/DIV: 1μS


MAX
2.0 ± 0.1 Vp-p
0 V
EYE PATTERN
must CLEAR and MAX

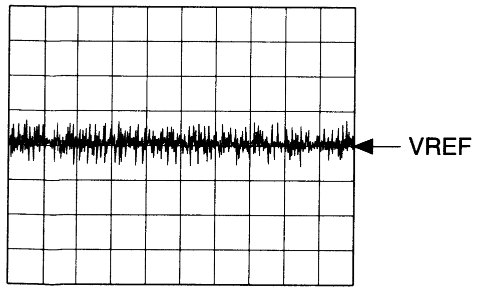
② IC101 Pin ⑯ (FD)
VOLT/DIV: 100mV
TIME/DIV: 1mS



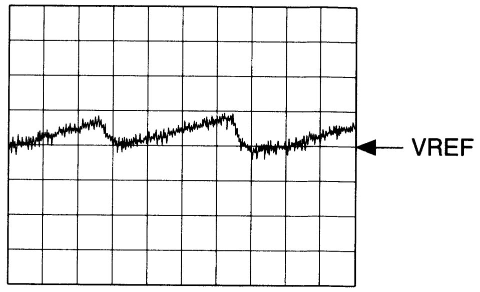
③ IC101 Pin ⑮ (TO)
VOLT/DIV: 100mV
TIME/DIV: 1mS



④ IC101 Pin ㉗ (SPD)
VOLT/DIV: 100mV
TIME/DIV: 1mS

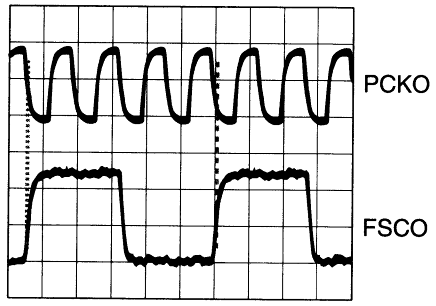


⑤ IC101 Pin ㉙ (SLD)
VOLT/DIV: 200mV
TIME/DIV: 2S

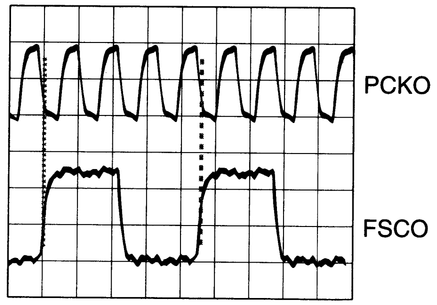


⑥ IC501 Pin ⑲ (PCKO)
IC501 Pin ⑱ (FSCO)
VOLT/DIV: 2V
TIME/DIV: 50nS

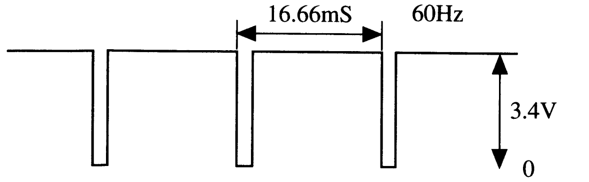
NTSC



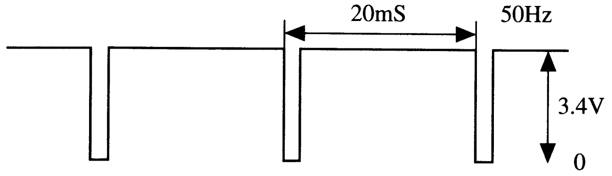
PAL, PAL 60



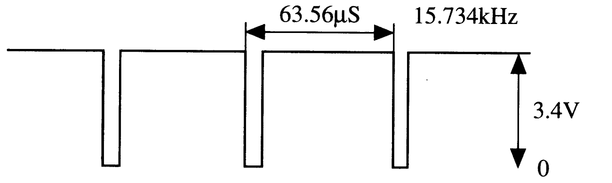
⑦ IC501 Pin ㉛ ($\overline{\text{C SYNC}}$)
VCD, PLAY
TV MODE: • NTSC
• PAL AUTO


16.66mS
60Hz
3.4V
0

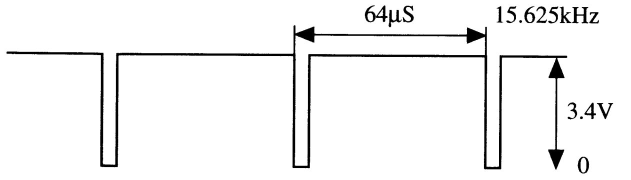
VCD, PLAY
TV MODE: PAL


20mS
50Hz
3.4V
0

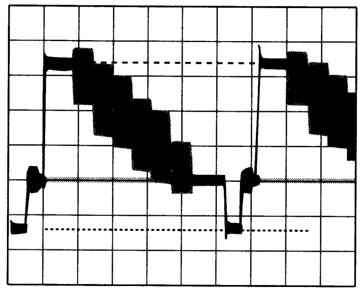
⑧ IC501 Pin ㉚ ($\overline{\text{H SYNC}}$)
VCD, PLAY
TV MODE: • NTSC
• PAL AUTO


63.56μS
15.734kHz
3.4V
0

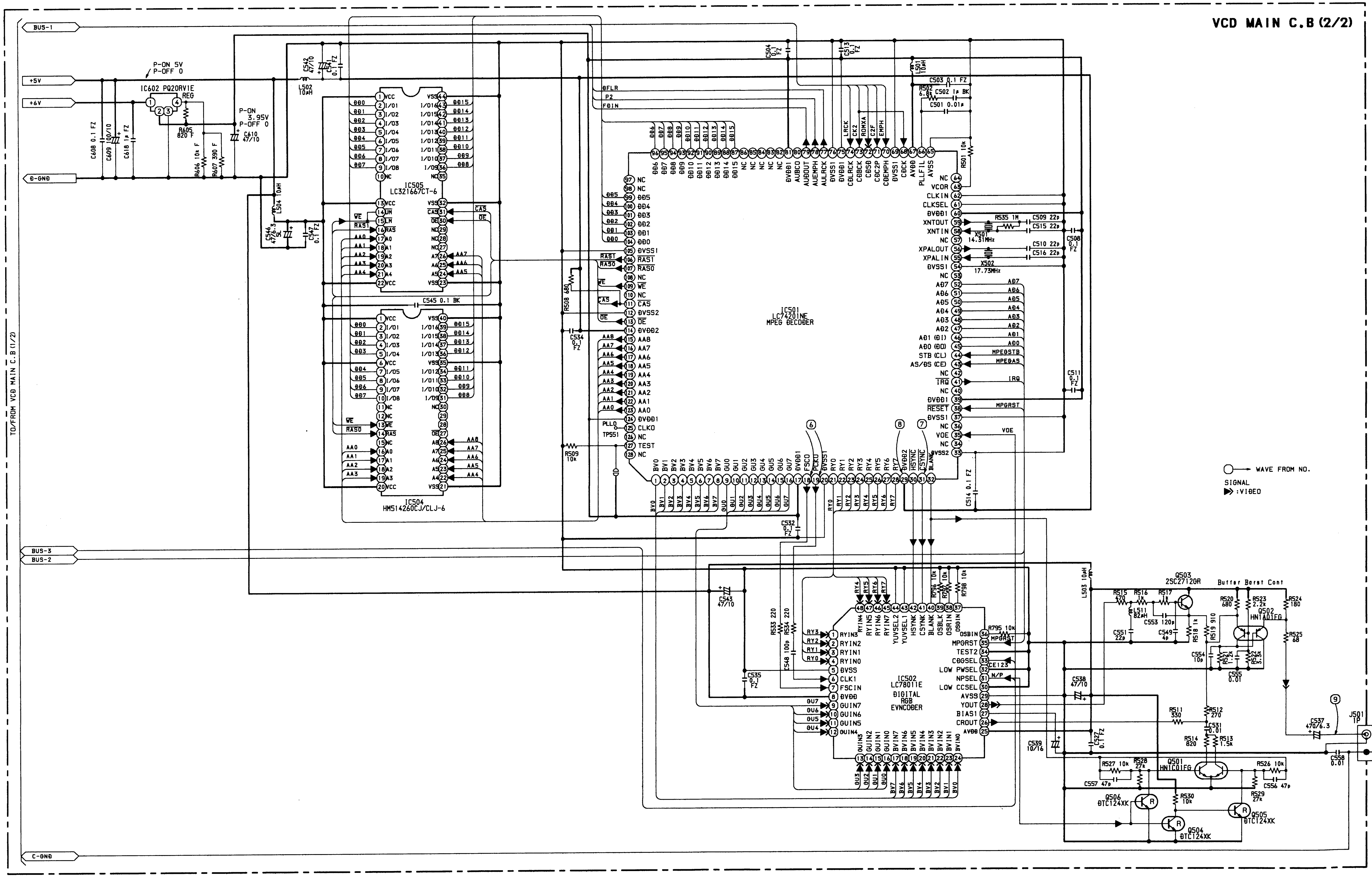
VCD, PLAY
TV MODE: PAL


64μS
15.625kHz
3.4V
0

⑨ VIDEO OUT
C537 ⊖ side
VCD PLAY: CD-T05 TRACK4
TV MODE: • NTSC
VOLT/DIV: 200mV
TIME/DIV: 10μS
VOLT/DIV: 200mV
TIME/DIV: 10μS

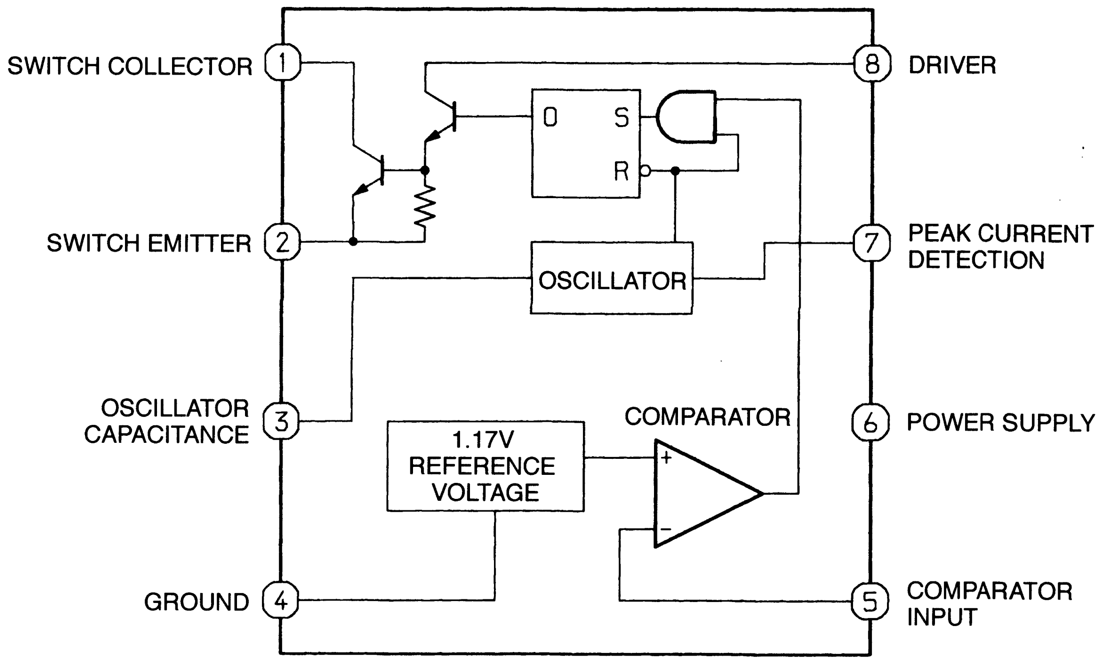


SCHEMATIC DIAGRAM-2


VCD MAIN C.B (2/2)
TO/FROM VCD MAIN C.B (1/2)
BUS-1
+5V
+6V
D-GND
BUS-3
BUS-2
C-GND
P-ON 5V
P-OFF 0
IC602 PQ20RV1E
REG
P-ON 3.95V
P-OFF 0
IC505
LC321667CT-6
IC504
HM514260CJ/CLJ-6
IC501
LC74201NE
MPEG DECODER
IC502
LC78011E
DIGITAL RGB EVNCODER
X501 14.31MHz
X502 17.73MHz
Q503 2SC2712GR
Buffer Burst Cont
Q502 HN1A01FG
Q501 HN1C01FG
Q506 DTC124XK
Q504 DTC124XK
Q505 DTC124XK
J501 1P
VIDEO OUT
WAVE FROM NO.
SIGNAL
▶ : VIDEO

IC BLOCK DIAGRAM

IC, M5291FP


SWITCH COLLECTOR
1
SWITCH EMITTER
2
OSCILLATOR CAPACITANCE
3
GROUND
4
DRIVER
8
PEAK CURRENT DETECTION
7
POWER SUPPLY
6
COMPARATOR INPUT
5
D
S
R
OSCILLATOR
1.17V REFERENCE VOLTAGE
COMPARATOR
+
−

共通部分は、下記のページを参照して下さい。
Refer to the following pages for the common section.

- **IC BLOCK DIAGRAM**
  TA7291S 23ページ参照
  See page 23
  BA6897S 23ページ参照
  See page 23
- **MECHANICAL EXPLODED VIEW/PARTS LIST**
  40ページ参照
  See page 40
- **CD MECHANISM EXPLODED VIEW/PARTS LIST**
  42ページ参照
  See page 42

IC DESCRIPTION

IC, LA9241M

端子番号	端子名称	I/O	機能説明
1	FIN2	I	ピックアップのフォトダイオード接続用ピン。FIN1ピンとの加算でRF信号を生成し、減算でFE信号を生成する。
2	FIN1	I	ピックアップのフォトダイオード接続用ピン。
3	E	I	ピックアップのフォトダイオード接続用ピン。Fピンとの減算でTE信号を生成する。
4	F	I	ピックアップのフォトダイオード接続用ピン。
5	TB	I	TE信号のDC成分入力用ピン。
6	TE−	I	TE信号のゲイン設定用抵抗をTEピン間に接続するピン。
7	TE	O	TE信号出力ピン。
8	TESI	I	TES“Track Error Sence”コンパレータ入力ピン。TE信号をバンドパスし、入力する。
9	SCI	I	ショック検出用入力ピン。
10	TH	I	トラッキングゲイン時定数設定用ピン。
11	TA	O	TAアンプ出力ピン。
12	TD−	I	トラッキング位相補償定数をTD、VRピン間で構成するためのピン。
13	TD	I	トラッキング位相補償設定用ピン。
14	JP	I	トラッキングシャンプ信号(キックパルス)振幅設定用ピン。
15	TO	O	トラッキング制御信号出力ピン。
16	FD	O	フォーカシング制御信号出力ピン。
17	FD−	I	フォーカシング位相補償定数をFD、FAピン間で構成するためのピン。
18	FA	I	フォーカシング位相補償定数をFD−、FA−ピン間で構成するためのピン。
19	FA−	I	フォーカシング位相補償定数をFA、FEピン間で構成するためのピン。
20	FE	O	FE信号の出力ピン。
21	FE−	I	FE信号のゲイン設定用抵抗をFEピン間に接続するピン。
22	AGND	—	アナログ信号用GND。
23	NC	—	NO CONNECT
24	SP	O	CV＋、CV−ピン入力信号のシングルエンド出力。
25	SPG	I	スピンドル12cmモード時ゲイン設定用抵抗接続ピン。
26	SP−	I	SPDピンとともにスピンドル位相補償定数接続用ピン。
27	SPD	O	スピンドル制御信号出力ピン。
28	SLEQ	I	スレッド位相補償定数接続用ピン。
29	SLD	O	スレッド制御信号出力ピン。
30、31	SL−、SL＋	I	マイコンからのスレッド送り信号入力ピン。
32、33	JP−、JP＋	I	DSPからのトラッキングジャンプ信号入力ピン。
34	TGL	I	DSPからのトラッキングゲインコントロール信号入力ピン。 TGL=「H」でゲインロー。
35	TOFF	I	DSPからのトラッキングオフコントロール信号入力ピン。 TOFF=「H」でオフ。
36	TES	O	TES信号をDSPへ出力するピン。
37	HFL	O	“High Frequency Level”は、メインビームの位置がビット上か、ミラー上かの判断に利用される。

端子番号	端子名称	I/O	機能説明
38	SLOF	I	スレッドサーボオフコントロール入力ピン。
39、40	CV－、CV＋	I	DSPからのCLVエラー信号入力用ピン。
41	RFSM	O	RF出力ピン。
42	RFS－	I	RFSMピンとともにRFのゲイン設定およびEFM信号の3T補償定数設定用ピン。
43	SLC	O	“Slice Level Control”は、RF波形のDSPによるデータスライスのレベルを制御する出力ピン。
44	SLI	I	DSPによるデータスライスのレベルを制御するための入力ピン。
45	DGND	—	ディジタル系のGNDピン。
46	FSC	O	フォーカスサーチスムージングコンデンサ用出力ピン。
47	TBC	I	“Tracking Balance Control”EFバランス可変範囲用設定ピン。
48	NC	—	NO CONNECT
49	DEF	O	ディスクのディフェクト検出出力ピン。
50	CLK	I	基準クロック入力ピン。DSPの4.23MHzが入力される。
51	CL	I	マイコンコマンドクロック入力ピン。
52	DAT	I	マイコンコマンドデータ入力ピン。
53	CE	I	マイコンコマンドチップイネーブル入力ピン。
54	DRF	O	“Detect RF”RFレベル検出出力。
55	FSS	I	“Focus Serch Select”フォーカスサーチモード(基準電圧に対し±サーチ／＋サーチ)の切り換えピン。
56	VCC2	—	サーボ系、ディジタル系用VCCピン。
57	REFI	—	基準電圧用パスコン接続用ピン。
58	VR	O	基準電圧出力ピン。
59	LF2	I	ディスクのディフェクト検出時定数設定用ピン。
60	PH1	I	RF信号のピークホールド用コンデンサ接続用ピン。
61	BH1	I	RF信号のボトムホールド用コンデンサ接続用ピン。
62	LDD	O	APC回路出力ピン。
63	LDS	I	APC回路入力ピン。
64	VCC1	—	RF系VCCピン。

IC, LC78630E

端子番号	端子名称	I/O	機 能 説 明
1	VPDO	O	バリピッチ用PLLのチャージポンプ出力端子。未使用時“OPEN”とすること。
2	PDO2	O	2倍速、4倍速時のビットクロック再生用PLLのチャージポンプ出力端子。未使用時“OPEN“とすること。
3	PDO1	O	通常速時のビットクロック再生用PLLのチャージポンプ出力端子。
4	AVSS	—	アナログ系接地端子。通常0V。
5	FR	I	内蔵VCO周波数レンジ設定用抵抗接続端子。
6	AVDD	—	アナログ系電源端子。
7	ISET	I	PDO1、PDO2出力電流設定用抵抗接続端子。
8	TAI	I	テスト用入力端子。プルダウン抵抗内蔵。
9	EFMO	O	EFM信号出力端子。
10	VSS	—	ディジタル系接地端子。通常0V。
11	EFMI	I	EFM信号入力端子。
12	TEST1	I	テスト用入力端子。プルダウン抵抗内蔵。
13	CLV+	O	スピンドルサーボ制御用出力端子。CLV+が「H」で加速、CLV-が「H」で減速。
14	CLV-	O	
15	V/$\overline{\text{P}}$	O	ラフサーボ／位相制御の自動切換えモニタ出力端子。「H」でラフサーボ、「L」で位相制御モード。
16、17	TEST2、TEST3	I	テスト用入力端子。プルダウン抵抗内蔵。
18	P4	I/O	入出力ポート。
19	HFL	I	トラック検出信号入力端子。シュミット入力。
20	TES	I	トラッキング誤差信号入力端子。シュミット入力。
21	PCK	O	EFMデータ再生用ビットクロックモニタ端子。通常速再生での位相ロック時4.3218MHz。
22	FSEQ	O	同期信号検出出力端子。EFM信号から検出した同期信号と内部生成の同期信号が一致した時に「H」。
23	TOFF	O	トラッキングOFF出力端子。
24	TGL	O	トラッキングゲイン切換え用出力端子。「L」でゲインを上げる。
25	THLD	O	トラッキングホールド出力端子。
26	TEST4	I	テスト用入力端子。プルダウン抵抗内蔵。
27	VDD	—	ディジタル系電源端子。
28、29	JP+、JP-	O	トラックジャンプ用出力端子。JP+が「H」で外周方向ジャンプ時の加速または内周方向ジャンプ時の減速。JP-が「H」で内周方向ジャンプ時の加速または外周方向ジャンプ時の減速。
30、31	SLD+、SLD-	O	スレッド出力端子。コマンドにより4レベル設定可能。
32	EMPH	O	エンファシスのモニタ端子。「H」の時エンファシス・ディスク再生中。
33	P5	I/O	入出力ポート。
34	LRCKO	O	ディジタルフィルタ出力・LRクロック出力端子。
35	DFLRO	O	ディジタルフィルタ出力・LRデータ出力端子。DFOFFコマンドによりDFをOFF。
36	DACKO	O	ディジタルフィルタ出力・ビットクロック出力端子。
37	CONT1	O	出力ポート。

端子番号	端子名称	I/O	機　能　説　明
38	P0/DFCK	I/O	入出力ポート。アンチショックモード時は、DFのビットクロック入力端子。
39	P1/DFIN	I/O	入出力ポート。アンチショックモード時は、DFのデータ入力端子。
40	P2	I/O	入出力ポート。アンチショックモード時は、ディエンファシス・フィルタのON／OFF切換え入力端子。「H」でディエンファシス・フィルタON。
41	P3/DFLR	I/O	入出力ポート。アンチショックモード時は、DFのLRクロック入力端子。
42	LRSY	O	ROMXA用・LRクロック出力端子。
43	CK2	O	ROMXA用・ビットクロック出力端子。CK2CONコマンドにより極性反転。
44	ROMXA	O	ROMXA用・補助データ出力端子。ROMXAコマンドにより補間されないデータを出力。
45	C2F	O	ROMXA用・C2フラグ出力端子。
46	MUTEL	O	1bit DAC用・Lチャネルミュート出力端子。
47	LVDD	—	1bit DAC用・Lチャネル用電源端子。
48	LCHP	O	1bit DAC用・LチャネルP出力端子。
49	LCHN	O	1bit DAC用・LチャネルN出力端子。
50	LVSS	—	1bit DAC用・Lチャネル用接地端子。通常0V。
51	XVSS	—	水晶発振用接地端子。通常0V。
52	XOUT	O	16.9344MHz水晶振発振子の接続端子。
53	XIN	I	4倍速再生は33.8688MHz水晶振発振子を接続。
54	XVDD	—	水晶発振用電源端子。
55	RVSS	—	1bit DAC用・Rチャネル用接地端子。通常0V。
56	RCHN	O	1bit DAC用・RチャネルN出力端子。
57	RCHP	O	1bit DAC用・RチャネルP出力端子。
58	RVDD	—	1bit DAC用・Rチャネル用電源端子。
59	MUTER	O	1bit DAC用・Rチャネルミュート出力端子。
60	SBSY	O	サブコードブロックの同期信号出力端子。
61	EFLG	O	C1、C2のエラー訂正モニタ端子。
62	PW	O	サブコードP、Q、R、S、T、U、V、Wの出力端子。
63	SFSY	O	サブコードのフレーム同期信号出力端子。サブコードがスタンバイした時立下がる。
64	SBCK	I	サブコード読み出しクロック入力端子。シュミット入力。未使用時は接地すること。
65	DOUT	O	ディジタルOUT出力端子。
66	FSX	O	水晶発振から分周した7.35kHz同期信号出力端子。
67	WRQ	O	サブコードQ出力スタンバイ出力端子。
68	RWC	I	リード／ライト制御入力端子。
69	SQOUT	O	サブコードQ出力端子。
70	COIN	I	マイコンからコマンド入力端子。
71	$\overline{\text{CQCK}}$	I	コマンド入力取り込みクロック、またはSQOUTからのサブコード読み出しクロック入力端子。シュミット入力。
72	$\overline{\text{RES}}$	I	チップリセット入力端子。電源投入時に一旦「L」にする。
73	TESTF	O	テスト用出力端子。

端子番号	端子名称	I/O	機能説明
74	CONT2	O	出力ポート。
75	16M	O	16.9344MHz出力端子。4倍速再生モード時は、33.8688MHz出力。
76	4.2M	O	4.2336MHz出力端子。
77	TEST5	I	テスト用入力端子。プルダウン抵抗内蔵。
78	$\overline{\mathrm{CS}}$	I	チップセレクト入力端子。プルダウン抵抗内蔵。
79	DEFI	I	ディフェクト検出信号入力端子。未使用時は接地すること。
80	VCOC	I	バリピッチ用VCOの制御入力端子。未使用時は接地すること。

IC, LC865632A-5E67

端子番号	端子名称	I/O	機能説明
1	IRQ	I	MPEGインタラプトリクエスト信号入力。
2	I-WRQ	I	CD WRQ入力信号。
3、4	CDGM、CDG-CS	I	未使用。
5	O-WRC	O	CD リード／ライト制御信号出力。
6	PAL NTSC	O	MPEG PAL/NTSC　モード選択信号出力。(L＝PAL)
7、8	SLED＋、SLED－	O	スレッド送り信号出力。
9	CD-RST	O	CD リセット端子。
10	MPFG-RST	O	MPEG リセット端子。
11	X-BUSY	I/O	ホストCPUインターフェースビジー信号。
12	NC	—	未使用。
13	CE123	O	VCD/CDGモード制御信号出力。(H＝VCD)
14	VOE	O	ビデオ出力イネーブル信号出力。(H＝VCD)
15、16	CDG CE、CDG CLK	O	未使用。
17、18	CDG DATA、GINTI	O	
19、20	GMUTE、GPAL	O	
21、22	SADJ、XWCDG	I	
23	VSS	—	GND。
24	VDD	—	電源端子。
25	XAMUTE	O	アナログオーディオミュート信号出力。(L＝MUTE)
26～30	NC	—	未使用。
31、32	PAL60、OSDCS	O	
33～40	AD0-AD7	I/O	MPEGデータ入出力。
41	CD-DATA	O	CDコマンドデータ出力。
42	SUBQ-IN	I	サブコードQ信号入力。
43	CD-CLK	O	CDクロック信号出力。
44	STATUS	O	ホストCPUへのステータス信号出力。
45	COMMAND	I	ホストCPUからのコマンドデータ入力。
46	CLK	I	ホストCPUからのクロック信号入力。
47	AS	O	MPEGアドレス／シリアルデータ出力。
48	STB	O	MPEGストローブ信号出力。
49	TEST	—	未使用。
50	RESET	—	リセット端子。
51、52	XT1、XT2	—	未使用。
53	VSS	—	GND。
54	CF1	I	6MHz発振子入力端子。
55	CF2	O	
56	VDD	—	電源端子。
57	SWIL	I	CDピックアップ最内周検出信号入力。
58	DRF-IN	I	“Detect RF” RFレベル検出信号入力。
59	P/PA/N	I	PAL/PAL AUTO/NTSCモード選択信号入力。(H＝PAL/PAL AUTO、L＝NTSC)
60～64	NC	—	未使用。

IC, LC78011E

<table>
<tr><th>端子番号</th><th>端子名称</th><th>I/O</th><th>機 能 説 明</th></tr>
<tr><td>1〜3</td><td>RYIN3〜RYIN1</td><td>I</td><td>R/Yデータ入力。</td></tr>
<tr><td>4</td><td>RYIN0</td><td>I</td><td>R/Yデータ入力。(LSB)</td></tr>
<tr><td>5</td><td>DVSS</td><td>—</td><td>デジタル系GND。</td></tr>
<tr><td>6</td><td>CLKI</td><td>I</td><td>4fscクロック入力。 (NTSC: 14.31818MHz)
(PAL: 17.734475MHz)
(PAL-M: 14.3024459MHz)</td></tr>
<tr><td>7</td><td>FSCIN</td><td>I</td><td>サブキャリアクロック入力。 (NTSC: 3.579545MHz)
(PAL: 4.4336187MHz)
(PAL-M: 3.5756114MHz)</td></tr>
<tr><td>8</td><td>DVDD</td><td>—</td><td>デジタル系電源。</td></tr>
<tr><td>9</td><td>GUIN7</td><td>I</td><td>G/Uデータ入力。(MSB)</td></tr>
<tr><td>10〜15</td><td>GUIN6〜GUIN1</td><td>I</td><td>G/Uデータ入力。</td></tr>
<tr><td>16</td><td>GUIN0</td><td>I</td><td>G/Uデータ入力。(LSB)</td></tr>
<tr><td>17</td><td>BVIN7</td><td>I</td><td>B/V/UVデータ入力。(MSB)</td></tr>
<tr><td>18〜23</td><td>BVIN6〜BVIN1</td><td>I</td><td>B/V/UVデータ入力。</td></tr>
<tr><td>24</td><td>BVIN0</td><td>I</td><td>B/V/UVデータ入力。(LSB)</td></tr>
<tr><td>25</td><td>AVDD</td><td>—</td><td>アナログ系電源。</td></tr>
<tr><td>26</td><td>CROUT</td><td>O</td><td>色／複合映像信号 (アナログ) 出力。(8bits-DAC出力)</td></tr>
<tr><td>27</td><td>BIAS</td><td>O</td><td>リップル除去用コンデンサー接続。</td></tr>
<tr><td>28</td><td>YOUT</td><td>O</td><td>輝度信号 (アナログ) 出力 (8bits-DAC出力)。</td></tr>
<tr><td>29</td><td>AVSS</td><td>—</td><td>アナログ系GND。</td></tr>
<tr><td>30</td><td>CCSEL</td><td>I</td><td>出力信号制御。(色信号出力: 0、複合映像信号出力: 1)</td></tr>
<tr><td>31</td><td>NPSEL</td><td>I</td><td rowspan="2"><table>
<tr><th>NPSEL</th><th>PMSEL</th><th>設定信号モード</th></tr>
<tr><td>0</td><td>0</td><td>NTSC</td></tr>
<tr><td>1</td><td>0</td><td>PAL</td></tr>
<tr><td>0</td><td>1</td><td>PAL-M</td></tr>
<tr><td>1</td><td>1</td><td>————</td></tr>
</table></td></tr>
<tr><td>32</td><td>PMSEL</td><td>I</td></tr>
<tr><td>33</td><td>CDGSEL</td><td>I</td><td>ビデオCD/CD-G入力モード制御端子。(V-CD=0、CD-G=1)</td></tr>
<tr><td>34</td><td>TEST</td><td>I</td><td>テストモード入力。通常は "L" に固定すること。</td></tr>
<tr><td>35</td><td>$\overline{\mathrm{RESET}}$</td><td>I</td><td>リセット信号入力。</td></tr>
<tr><td>36</td><td>OSBIN</td><td>I</td><td>OSD (B) 信号入力端子。</td></tr>
<tr><td>37</td><td>OSGIN</td><td>I</td><td>OSD (G) 信号入力端子。</td></tr>
<tr><td>38</td><td>OSRIN</td><td>I</td><td>OSD (R) 信号入力端子。</td></tr>
<tr><td>39</td><td>OSBLK</td><td>I</td><td>OSD切り替え信号 (OSD BLANK) 入力端子。</td></tr>
<tr><td>40</td><td>BLANK</td><td>I</td><td>コンポジットBLANK (HBLANK/VBLANK) 信号入力。</td></tr>
<tr><td>41</td><td>$\overline{\mathrm{CSYNC}}$</td><td>I</td><td>CSYNC同期信号入力。</td></tr>
<tr><td>42</td><td>$\overline{\mathrm{HSYNC}}$</td><td>I</td><td>HSYNC同期信号入力。</td></tr>
</table>

<table>
<tr><th>端子番号</th><th>端子名称</th><th>I/O</th><th>機能説明</th></tr>
<tr><td>43</td><td>YUVSEL1</td><td>I</td><td rowspan="2"><table>
<tr><th>YUVSEL1</th><th>YUVSEL2</th><th>入力モード</th></tr>
<tr><td>0</td><td>0</td><td>RYIN=R、GUIN=G、BVIN=B</td></tr>
<tr><td>1</td><td>0</td><td>RYIN=Y、GUIN=U、BVIN=V</td></tr>
<tr><td>0</td><td>1</td><td>RYIN=Y、BVIN=UV</td></tr>
<tr><td>1</td><td>1</td><td>――――</td></tr>
</table></td></tr>
<tr><td>44</td><td>YUVSEL2</td><td>I</td></tr>
<tr><td>45</td><td>RYIN7</td><td>I</td><td>R/Yデータ入力。(MSB)</td></tr>
<tr><td>46～48</td><td>RYIN6～RYIN4</td><td>I</td><td>R/Yデータ入力。</td></tr>
</table>

IC, LC74201NE

端子番号	端子名称	I/O	機　能　説　明
1	BV0 (LSB)	I/O	ビデオ信号出力。(B信号、V信号)　出力: DVDD1 (3V) 系の3-state出力。
2～4	BV1～BV3		
5～7	BV4～BV6	I/O	ビデオ信号出力。(B信号、V信号)　出力: DVDD2 (5V) 系の3-state出力。
8	BV7 (MSB)		
9	GU0 (LSB)	I/O	ビデオ信号出力。(G信号、U信号)　出力: DVDD1 (3V) 系の3-state出力。
10～12	GU1～GU3		
13～15	GU4～GU6	I/O	ビデオ信号出力。(G信号、U信号)　出力: DVDD2 (5V) 系の3-state出力。
16	GU7 (MSB)		
17	DVDD1	—	システム電源。(3V系電源: 3.3±0.3V)
18	FSCO	O	サブキャリア・クロック出力。(ピクセル・クロックの1/4分周出力) DVDD2 (5V) 系の3-state出力。
19	PCKO	O	ピクセル・クロック出力。(NTSC-4fsc/PAL-4fsc/13.5MHz) DVDD1 (3V) 系の3-state出力。
20	DVSS1	—	システム電源。(GND接地)
21	RY0 (LSB)	I/O	ビデオ信号出力。(R信号、Y信号)　出力: DVDD1 (3V) 系の3-state出力。
22～24	RY1～RY3		
25～27	RY4～RY6	I/O	ビデオ信号出力。(R信号、Y信号)　出力: DVDD2 (5V) 系の3-state出力。
28	RY7 (MSB)		
29	DVDD2	—	5V系入出力端子用電源。(5.0±0.5V)
30	$\overline{\text{HSYNC}}$	O	水平同期信号出力。DVDD2 (5V) 系の3-state出力。
31	$\overline{\text{CSYNC}}$	O	複合同期信号出力。DVDD2 (5V) 系の3-state出力。
32	BLANK	O	ブランキング信号出力。(垂直、水平ブランキング期間信号) DVDD2 (5V) 系の3-state出力。
33	DVSS2	—	5V系入出力端子用電源。(GND接地)
34	NC	—	未接続端子。
35	VOE	I	ビデオ出力イネーブル信号入力。“H”：出力イネーブル
36	NC	—	未接続端子。
37	DVSS1	—	システム電源。(GND接地)
38	$\overline{\text{RESET}}$	I	システム・リセット入力。
39	DVDD1	—	システム電源。(3V系電源: 3.3±0.3V)
40	NC	—	未接続端子。
41	$\overline{\text{IRQ}}$	O	割り込み要求信号出力。(N-chオープン・ドレイン出力)
42	NC	—	未接続端子。
43	AS/DS (CE)	I	パラレル時: アドレス／データ入力切り換え。(“L”＝アドレス) シリアル時: シリアル転送イネーブル信号入力。(“H”＝イネーブル)
44	STB (CL)	I	パラレル時: アドレス／データ入出力・ストローブ信号入力。 シリアル時: シリアル転送用クロック信号入力。
45	AD0 (DO)	I/O	パラレル時: アドレス／データ入出力ポートP0。(LSB) シリアル時: シリアル・データ出力。(LSBファースト入力)
46	AD1 (DI)	I/O	パラレル時: アドレス／データ入出力ポートP1。 シリアル時: シリアル・データ入力。(LSBファースト出力)

端子番号	端子名称	I/O	機　能　説　明
47～51	AD2～AD6	I/O	パラレル・インターフェース時のアドレス／データ入出力ポート。 インターフェースのモードは、システム・リセット解除時に設定。 AD3、AD4、AD5の3ビットの設定により、モードを確定。 ① シリアル・インターフェース:「AD5:AD4:AD3＝1:＊:＊」＊＝Don't care ② パラレル・インターフェース:「AD5:AD4:AD3＝0:1:0」 AD7: パラレル時のアドレス／データ入出力ポートP7。(MSB) AD0～AD7の出力は、N-chオープン・ドレイン出力形式。
52	AD7 (MSB)	I/O	
53	NC	—	未接続端子。
54	DVSS1	—	システム電源。(GND接地)
55	XPALIN	I	PAL用4fsc水晶発振子接続端子。(4fsc＝17.734476MHz)
56	XPALOUT	O	
57	NC	—	未接続端子。
58	XNTIN	I	NTSC用4fsc水晶発振子接続端子。(4fsc＝14.31818MHz)
59	XNTOUT	O	
60	DVDD1	—	システム電源。(3V系電源: 3.3±0.3V)
61	CLKSEL	I	54.0MHz クロック入力 (CLKIN: 62pin) と内部VCO発振クロックの切り換え制御入力。“H”: CLKIN端子入力モード
62	CLKIN	I	54.0MHz クロック入力端子 (内部バイアス付き入力) 未使用時は、端子処理 (DVDD1または、DVSS1) して下さい。
63	VCOR	—	VCO発振回路の調整用抵抗接続端子。
64	NC	—	未接続端子。
65	AVSS	—	VCO、PLL部用電源。(GND接地)
66	PLLFIL	—	PLLループのフィルター接続端子。
67	AVDD	—	VCO、PLL部用電源。(3V系電源: 3.3±0.3V)
68	CDCK	I	CD-DSPクロック入力。(16.9344MHz/2.8224MHz/2.1168MHz)
69	DVSS1	—	システム電源。(GND接地)
70	CDEMPH	I	エンファシス入力。
71	CDC2P	I	C2エラー・フラグ入力。
72	CDSD	I	シリアル・データ入力。
73	CDBCK	I	シリアル・データ・ビットクロック入力。
74	CDLRCK	I	Left/Rightクロック入力。
75	DVDD1	—	システム電源。(3V系電源: 3.3±0.3V)
76	DVSS1	—	システム電源。(GND接地)
77	AULRCK	O	オーディオ・データ　Left/Rightクロック出力。(N-chオープン・ドレイン出力)
78	AUEMPH	O	オーディオ・エンファシス・フラグ出力。(N-chオープン・ドレイン出力)
79	AUDOUT	O	オーディオ・データ　シリアル出力。(N-chオープン・ドレイン出力)
80	AUBCO	O	オーディオ・データ　ビット・クロック出力。(N-chオープン・ドレイン出力)
81	DVDD1	—	システム電源。(3V系電源: 3.3±0.3V)
82～86	NC	—	未接続端子。
87	DD15 (MSB)	I/O	DRAMへのデータ入出力。出力: DVDD2 (5V) 系の3-state出力。
88～96	DD14～DD6		

端子番号	端子名称	I/O	機 能 説 明
97、98	NC	—	未接続端子。
99～103	DD5～DD1	I/O	DRAMへのデータ入出力。出力: DVDD2 (5V) 系の3-state出力。
104	DD0 (LSB)		
105	DVSS1	—	システム電源。(GND接地)
106	$\overline{\text{RAS1}}$	O	拡張1M-DRAMへのRaw address strobe信号出力。DVDD2 (5V) 系の3-state出力。
107	$\overline{\text{RAS0}}$	O	4M-DRAMへのRaw address strobe信号出力。DVDD2 (5V) 系の3-state出力。
108	NC	—	未接続端子。
109	$\overline{\text{WE}}$	O	DRAMへのWrite enable信号出力。DVDD2 (5V) 系の3-state出力。
110	NC	—	未接続端子。
111	$\overline{\text{CAS}}$	O	DRAMへのColumn address strobe信号出力。DVDD2 (5V) 系の3-state出力。
112	DVSS2	—	5V系入出力端子用電源。(GND接地)
113	$\overline{\text{OE}}$	O	DRAMへのOutput enable信号出力。DVDD2 (5V) 系の3-state出力。
114	DVDD2	—	5V系入出力端子用電源。(5.0±0.5V)
115	AA8 (MSB)	O	DRAMへのアドレス出力。出力: DVDD2 (5V) 系の3-state出力。
116～122	AA7～AA1		
123	AA0 (LSB)		
124	DVDD1	—	システム電源。(3V系電源: 3.3±0.3V)
125	CLKO	O	テスト時のVCO、PLL部クロック出力。
126	NC	—	未接続端子。
127	TEST	I	テストモード動作制御端子。(通常: “L” に固定)
128	NC	—	未接続端子。

IC, LA9241M

Pin No.	Pin Name	I/O	Description
1	FIN2	I	Pin to which external pickup photo diode is connected. RF signal is created by adding with the FIN1 pin signal. FE signal is created by subtracting from the FIN1 pin signal.
2	FIN1	I	Pin to which external pickup photo diode is connected.
3	E	I	Pin to which external pickup photo diode is connected. TE signal is created by subtracting from the F pin signal.
4	F	I	Pin to which external pickup photo diode is connected.
5	TB	I	DC component of the TE signal is input.
6	TE–	I	Pin to which external resistor setting the TE signal gain is connected between the TE pin.
7	TE	O	TE signal output pin.
8	TESI	I	TES “Track Error Sense” comparator input pin. TE signal is passed through a band-pass filter then input.
9	SCI	I	Shock detection signal input pin.
10	TH	I	Tracking gain time constant setting pin.
11	TA	O	TA amplifier output pin.
12	TD–	I	Pin to which external tracking phase compensation constants are connected between the TD and VR pins.
13	TD	I	Tracking phase compensation setting pin.
14	JP	I	Tracking jump signal (kick pulse) amplitude setting pin.
15	TO	O	Tracking control signal output pin.
16	FD	O	Focusing control signal output pin.
17	FD–	I	Pin to which external focusing phase compensation constants are connected between the FD and FA pins.
18	FA	I	Pin to which external focusing phase compensation constants are connected between the FD– and FA– pins.
19	FA–	I	Pin to which external focusing phase compensation constants are connected between the FA and FE pins.
20	FE	O	FE signal output pin.
21	FE–	I	Pin to which external FE signal gain setting resistor is connected between the FE pin.
22	AGND	—	Analog signal GND.
23	NC	—	No connection.
24	SP	O	Single ended output of the CV+ and CV– pin input signal.
25	SPG	I	Pin to which external spindle gain setting resistor in 12 cm mode is connected.
26	SP–	I	Pin to which external spindle phase compensation constants are connected together with SPD pin.
27	SPD	O	Spindle control signal output pin.
28	SLEQ	I	Pin to which external sled phase compensation constants are connected.
29	SLD	O	Sled control signal output pin.
30, 31	SL–, SL+	I	Sled advance signal input pin from microprocessor.
32, 33	JP–, JP+	I	Tracking jump signal input pin from DSP.
34	TGL	I	Tracking gain control signal input from DSP. Low gain when TGL = H.
35	TOFF	I	Tracking off control signal input pin from DSP. Off when TOFF = H.
36	TES	O	Pin from which TES signal is output to DSP.
37	HFL	O	“High Frequency Level” is used to judge whether the main beam position is on top of bit or on top of mirror.
38	SLOF	I	Sled servo off control input pin.
39, 40	CV–, CV+	I	CLV error signal input pin from DSP.
41	RFSM	O	RF output pin.
42	RFS–	I	RF gain setting and EFM signal 3T compensation constant setting pin together with RFSM pin.
43	SLC	O	“Slice Level Control” is the output pin which controls the RF signal data slice level by DSP.
44	SLI	I	Input pin which control the data slice level by the DSP.
45	DGND	—	Digital system GND.
46	FSC	O	Output pin to which external focus search smoothing capacitor is connected.
47	TBC	I	“Tracking Balance Control” EF balance variable range setting pin.
48	NC	—	No connection.
49	DEF	O	Disc defect detector output pin.
50	CLK	I	Reference clock input pin. 4.23 MHz of the DSP is input.
51	CL	I	Microprocessor command clock input pin.
52	DAT	I	Microprocessor command data input pin.
53	CE	I	Microprocessor command chip enable input pin.
54	DRF	O	“Detect RF” RF level detector output.
55	FSS	I	“Focus Search Select” focus search mode (± search/+ search) select pin.
56	VCC2	—	Servo system and digital system Vcc pin.
57	REFI	—	Pin to which external bypass capacitor for reference voltage is connected.
58	VR	O	Reference voltage output pin.
59	LF2	I	Disc defect detector time constant setting pin.
60	PH1	I	Pin to which external capacitor for RF signal peak holding is connected.
61	BH1	I	Pin to which external capacitor for RF signal bottom holding is connected.
62	LDD	O	APC circuit output pin.
63	LDS	I	APC circuit input pin.
64	VCC1	—	RF system Vcc pin.

IC, LC78630E

Pin No.	Pin Name	I/O	Description
1	VPDO	O	Vari-pitch PLL charge pump output pin. This pin must be open when not used.
2	PDO2	O	Bit clock playback PLL charge pump output pin during 2 times and 4 times speed. This pin must be open when not used.
3	PDO1	O	Bit clock playback PLL charge pump output pin during normal speed.
4	AVSS	—	Analog system GND. Normally 0V.
5	FR	I	An external resistor to set built-in VCO frequency range is connected to this pin.
6	AVDD	—	Analog system GND.
7	ISET	I	An external resistor set PD01 and PD02 output current is connected to this pin.
8	TAI	I	Test input pin with built-in pull-down resistor.
9	EFMO	O	EFM signal output pin.
10	VSS	—	Digital system GND. Normally 0V.
11	EFMI	I	EFM signal input pin.
12	TEST1	I	Test input pin with built-in pull-down resistor.
13	CLV+	O	Spindle servo control output pin. Acceleration when CLV+ is "H".
14	CLV-	O	Deceleration when CLV- is "H".
15	V/$\overline{P}$	O	Rough servo/phase control automatic selection monitoring output pin. Rough servo at "H". Phase control mode at "L".
16, 17	TEST2, TEST3	I	Test input pin with built-in pull-down resistor.
18	P4	I/O	Input/output port.
19	HFL	I	Tracking detection signal input pin. Schmitt input.
20	TES	I	Tracking error signal input pin. Schmitt input.
21	PCK	O	EFM data playback bit clock monitoring pin. 4.3218 MHz when phase is locked during normal speed playback.
22	FSEQ	O	Sync signal detection output pin. When the sync signal detected from the EFM signal agrees with the internally generated sync signal, "H" output.
23	TOFF	O	Tracking OFF output pin.
24	TGL	O	Tracking gain selector output pin. Gain is increased at "L".
25	THLD	O	Tracking hold output pin.
26	TEST4	I	Test input pin with built-in pull-down resistor.
27	VDD	—	Digital system GND.
28, 29	JP+, JP-	O	Tracking jump output pin. JP+ "H" occurs at acceleration during jump toward outside or decelerator toward inside. JP- "H" occurs at acceleration during jump toward inside or deceleration toward outside.
30, 31	SLD+, SLD-	O	Sled output pin. Four different level can be set using commands.
32	EMPH	O	Emphasis monitoring output. "H" indicates that emphasis disc is being played back.
33	P5	I/O	Input/output.
34	LRCKO	O	Digital filter output. LR clock output pin.
35	DFLRO	O	Digital filter output. LR data output pin. DF is turned OFF with the DFOFF command.
36	DACKO	O	Digital filter output. Bit clock output pin.
37	CONT1	O	Output port.
38	P0/DFCK	I/O	Input/output port. The DF bit clock input pin during the anti-shock mode.
39	P1/DFIN	I/O	Input/output port. The DF data input pin during the anti-shock mode.
40	P2	I/O	Input/output port. Deemphasis filter ON/OFF selection input pin during the anti-shock mode. Deemphasis filter ON at "H".
41	P3/DFLR	I/O	Input/output port. The DF LR clock input pin during the anti-shock mode.
42	LRSY	O	For ROMXA • LR clock output pin.
43	CK2	O	For ROMXA • Bit clock output pin. Polarity inversion by the CK2CON command.
44	ROMXA	O	For ROMXA • Interpolation data output pin. The un-interpolated data is output with the ROMXA command.
45	C2F	O	For ROMXA • C2 flat output pin.
46	MUTEL	O	For 1-bit DAC • L-channel mute output pin.
47	LVDD	—	For 1-bit DAC • L-channel power supply.
48	LCHP	O	For 1-bit DAC • L-channel P output pin.
49	LCHN	O	For 1-bit DAC • L-channel N output pin.
50	LVSS	—	For 1-bit DAC • L-channel GND. Normally 0 V.
51	XVSS	—	Crystal oscillator GND. Normally 0 V.
52	XOUT	O	An external 16.9344 MHz crystal oscillator is connected to this pin.
53	XIN	I	33.8688 MHz crystal oscillator is connected during 4 time speed playback.
54	XVDD	—	Crystal oscillator GND.
55	RVSS	—	For 1-bit DAC • R-channel GND. Normally 0 V.
56	RCHN	O	For 1-bit DAC • R-channel N output pin.
57	RCHP	O	For 1-bit DAC • R-channel P output pin.
58	RVDD	—	For 1-bit DAC • R-channel power supply.
59	MUTER	O	For 1-bit DAC • R-channel mute output pin.
60	SBSY	O	Subcode block sync signal output pin.
61	EFLG	O	C1 and C2 error correction monitoring pin.
62	PW	O	ubcode P, Q, R, S, T, U, V and W output pin.
63	SFSY	O	Subcode frame sync signal output pin. The level falls down when the subcode is in standby.
64	SBCK	I	Subcode read clock input pin. Schmitt input. This pin must be connected GND when not used.
65	DOUT	O	Digital output pin.
66	FSX	O	7.35 kHz sync signal divided from the crystal oscillator is output to this pin.
67	WRQ	O	Subcode Q output standby output pin.
68	RWC	I	Read/write control input pin.
69	SQOUT	O	Subcode Q output pin.
70	COIN	I	Microprocessor command input pin.
71	$\overline{\text{CQCK}}$	I	Command input read clock or subcode read clock input from SQOUT. Schmitt input.
72	$\overline{\text{RES}}$	I	Chip reset input pin. This pin goes to "L" once when the main power is turned on.
73	TESTF	O	Test output pin.
74	CONT2	O	Output port.

IC, LC78011E

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>1-3</td><td>RYIN3-RYIN1</td><td>I</td><td>R/Y data input.</td></tr>
<tr><td>4</td><td>RYIN0</td><td>I</td><td>R/Y data input. (LSB).</td></tr>
<tr><td>5</td><td>DVSS</td><td>—</td><td>Digital system ground.</td></tr>
<tr><td>6</td><td>CLKI</td><td>I</td><td>4 fsc clock input. (NTSC: 14.31818 MHz)
(PAL: 17.734475 MHz)
(PAL-M: 14.3024459 MHz).</td></tr>
<tr><td>7</td><td>FSCIN</td><td>I</td><td>Subcarrier clock input. (NTSC: 3.589545 MHz)
(PAL: 4.4336187 MHz)
(PAL-M: 3.5756114 MHz).</td></tr>
<tr><td>8</td><td>DVDD</td><td>—</td><td>Digital system ground.</td></tr>
<tr><td>9</td><td>GUIN7</td><td>I</td><td>G/U data input. (MSB).</td></tr>
<tr><td>10-15</td><td>GUIN6-GUIN1</td><td>I</td><td>G/U data input.</td></tr>
<tr><td>16</td><td>GUIN0</td><td>I</td><td>G/U data input. (LSB).</td></tr>
<tr><td>17</td><td>BVIN7</td><td>I</td><td>B/V/UV data input. (MSB).</td></tr>
<tr><td>18-23</td><td>BVIN6-BVIN1</td><td>I</td><td>B/V/UV data input.</td></tr>
<tr><td>24</td><td>BVIN0</td><td>I</td><td>B/V/UV data input. (LSB).</td></tr>
<tr><td>25</td><td>AVDD</td><td>—</td><td>Analog system ground.</td></tr>
<tr><td>26</td><td>CROUT</td><td>O</td><td>Chroma/composite video signal (analog) output. (8-bit DAC output).</td></tr>
<tr><td>27</td><td>BIAS</td><td>O</td><td>Terminal where ripple removal capacitor is connected.</td></tr>
<tr><td>28</td><td>YOUT</td><td>O</td><td>Luminance signal (analog) output. (8-bit DAC output).</td></tr>
<tr><td>29</td><td>AVSS</td><td>—</td><td>Analog system ground.</td></tr>
<tr><td>30</td><td>CCSEL</td><td>I</td><td>Output signal control (Chroma signal output: 0, Composite video signal output: 1).</td></tr>
<tr><td>31</td><td>NPSEL</td><td>I</td><td rowspan="2"><table>
<tr><th>NPSEL</th><th>PMSEL</th><th>Set signal mode</th></tr>
<tr><td>0</td><td>0</td><td>NTSC</td></tr>
<tr><td>1</td><td>0</td><td>PAL</td></tr>
<tr><td>0</td><td>1</td><td>PAL-M</td></tr>
<tr><td>1</td><td>1</td><td>—————</td></tr>
</table></td></tr>
<tr><td>32</td><td>PMSEL</td><td>I</td></tr>
<tr><td>33</td><td>CDGSEL</td><td>I</td><td>Video CD/CD-G input mode control terminal. (V-CD = 0, CD-G=1).</td></tr>
<tr><td>34</td><td>TEST</td><td>I</td><td>Test mode input. To be fixed to L normally.</td></tr>
<tr><td>35</td><td>$\overline{\text{RESET}}$</td><td>I</td><td>Reset signal input.</td></tr>
<tr><td>36</td><td>OSBIN</td><td>I</td><td>OSD (B) signal input terminal.</td></tr>
<tr><td>37</td><td>OSGIN</td><td>I</td><td>OSD (G) signal input terminal.</td></tr>
<tr><td>38</td><td>OSRIN</td><td>I</td><td>OSD (R) signal input terminal.</td></tr>
<tr><td>39</td><td>OSBLK</td><td>I</td><td>OSD selector signal (OSD BLANK) input terminal.</td></tr>
<tr><td>40</td><td>BLANK</td><td>I</td><td>Composite blanking (H-BLANK/V-BLANK) signal input.</td></tr>
<tr><td>41</td><td>$\overline{\text{CSYNC}}$</td><td>I</td><td>CSYNC sync signal input.</td></tr>
<tr><td>42</td><td>$\overline{\text{HSYNC}}$</td><td>I</td><td>HSYNC sync signal input.</td></tr>
</table>

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>43</td><td>YUVSEL1</td><td>I</td><td rowspan="2"><table>
<tr><th>YUVSEL1</th><th>YUVSEL2</th><th>Input mode</th></tr>
<tr><td>0</td><td>0</td><td>RYIN=R, GUIN=G, BVIN=B</td></tr>
<tr><td>1</td><td>0</td><td>RYIN=Y, GUIN=U, BVIN=V</td></tr>
<tr><td>0</td><td>1</td><td>RYIN=Y, BVIN=UV</td></tr>
<tr><td>1</td><td>1</td><td>—————</td></tr>
</table></td></tr>
<tr><td>44</td><td>YUVSEL2</td><td>I</td></tr>
<tr><td>45</td><td>RYIN7</td><td>I</td><td>R/Y data input. (MSB).</td></tr>
<tr><td>46-48</td><td>RYIN6-RYIN4</td><td>I</td><td>R/Y data input.</td></tr>
</table>

Pin No.	Pin Name	I/O	Description
75	16M	O	16.9344 MHz crystal output pin. 33.8688 MHz is output during 4 times speed playback.
76	4.2M	O	4.2336 MHz output pin.
77	TEST5	I	Test input pin with built-in pull-down resistor.
78	$\overline{\text{CS}}$	I	Chip select input pin with built-in pull-down resistor.
79	DEFI	I	Defect detection signal input pin. This pin must be connected GND when not used.
80	VCOC	I	Vari-pitch VCO control input pin. This pin must be connected GND when not used.

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Pin No.	Pin Name	I/O	Description
1	IRQ	I	MPEG interrupt request input signal.
2	I-WRQ	I	CD WRQ input signal.
3, 4	CDGM, CDG-CS	I	Not used.
5	O-WRC	O	CD read/write control signal output.
6	PAL NTSC	O	MPEG PAL/NTSC mode selection signal output. (L = PAL).
7, 8	SLED+, SLED–	O	Sled advance signal output.
9	CD-RST	O	CD reset terminal.
10	MPFG-RST	O	MPEG reset terminal.
11	X-BUSY	I/O	Host CPU interface busy signal.
12	NC	—	Not used.
13	CE123	O	VCD/CDG mode control signal output. (H = VCD).
14	VOE	O	Video output enable signal output. (H = VCD).
15, 16	CDG CE, CDG CLK	O	Not used.
17, 18	CDG DATA, GINTI	O	
19, 20	GMUTE, GPAL	O	
21, 22	SADJ, XWCDG	I	
23	VSS	—	GND.
24	VDD	—	Power supply terminal.
25	XAMUTE	O	Analog audio mute signal output. (L = MUTE).
26-30	NC	—	Not used.
31, 32	PAL60, OSDCS	O	
33-40	AD0-AD7	I/O	MPEG data input/output.
41	CD-DATA	O	CD command data output.
42	SUBQ-IN	I	Subcode Q signal input.
43	CD-CLK	O	CD clock signal output.
44	STATUS	O	Status signal output to host CPU.
45	COMMAND	I	Command data input from host CPU.
46	CLK	I	Clock signal input from host CPU.
47	AS	O	MPEG address/serial data output.
48	STB	O	MPEG strobe signal output.
49	TEST	—	Not used.
50	RESET	—	Reset terminal.
51, 52	XT1, XT2	—	Not used.
53	VSS	—	GND.
54	CF1	I	6 MHz oscillator input terminal.
55	CF2	O	6 MHz oscillator output terminal.
56	VDD	—	Power supply terminal.
57	SWIL	I	CD pickup inner circumference limit signal input.
58	DRF-IN	I	"Detect RF" RF level detection signal input.
59	P/PA/N	I	PAL/PAL or AUTO/NTSC mode selection signal input. (H = PAL/PAL, L = AUTO/NTSC).
60-64	NC	—	Not used.

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Pin No.	Pin Name	I/O	Description
1	BV0 (LSB)	I/O	Video signal output (B signal, V signal).
2-4	BV1-BV3		Output: 3-state output of DVDD1 (3 V) system.
5-7	BV4-BV6	I/O	Video signal output (B signal, V signal).
8	BV7 (MSB)		Output: 3-state output of DVDD2 (5 V) system.
9	GU0 (LSB)	I/O	Video signal output (G signal, U signal).
10-12	GU1-GU3		Output: 3-state output of DVDD1 (3 V) system.
13-15	GU4-GU6	I/O	Video signal output (G signal, U signal).
16	GU7 (MSB)		Output: 3-state output of DVDD2 (5 V) system.
17	DVDD1	—	System power supply. (3 V system power supply: 3.3 ± 0.3 V).
18	FSCO	O	Sub carrier clock output. (Pixel clock divided-by-four output). 3-state output of DVDD2 (5V) system.
19	PCKO	O	Pixel clock output (NTSC: 4 fsc/PAL: 4fsc/13.5 MHz). 3-state output of DVDD1 (3V) system.
20	DVSS1	—	System power supply. (Connection to GND).
21	RY0 (LSB)	I/O	Video signal output (R signal, Y signal).
22-24	RY1-RY3		Output: 3-state output of DVDD1 (3 V) system.
25-27	RY4-RY6	I/O	Video signal output (R signal, Y signal).
28	RY7 (MSB)		Output: 3-state output of DVDD2 (5 V) system.
29	DVDD2	—	System power supply for 5V input/output terminal. (5.0 ± 0.5 V).
30	$\overline{\text{HSYNC}}$	O	Horizontal system signal output. 3-state output of DVDD2 (5 V) system.
31	$\overline{\text{CSYNC}}$	O	Composite sync signal output. 3-state output of DVDD2 (5 V) system.
32	BLANK	O	Blanking signal output. (Vertical and horizontal blanking period signal). 3-state output of DVDD2 (5 V) system.
33	DVSS2	—	System power supply for 5V input/output terminal. (Connection to GND).
34	NC	—	Not connected terminal.
35	VOE	I	Video output enable signal input. Output enable at H.
36	NC	—	Not connected terminal.
37	DVSS1	—	System power supply. (Connected to ground).
38	$\overline{\text{RESET}}$	I	System reset input.
39	DVDD1	—	System power supply. (3 V system power supply: 3.3 ±0.5 V).
40	NC	—	Not connected terminal.
41	$\overline{\text{IRQ}}$	O	Interrupt request signal output. (N-ch open drain output).
42	NC	—	Not connected terminal.
43	AS/DS (CE)	I	During parallel mode: Selection between address and data input. (Address at L). During serial mode: Serial transfer enable signal input. (Enable at H).
44	STB (CL)	I	During parallel mode: Address and data input/output. Strobe signal input. During serial mode: Serial transfer clock signal input.
45	AD0 (DO)	I/O	During parallel mode: Address and data input/output port P0 (LSB). During serial mode: Serial data output. (LSB first input).
46	AD1 (DI)	I/O	During parallel mode: Address and data input/output port P1. During serial mode: Serial data input. (LSB first output).

Pin No.	Pin Name	I/O	Description
47-51	AD2-AD6	I/O	Address/data input/output port during parallel interface mode. The interface mode is set when releasing the system reset . Mode is set by the 3-bit setup of AD3, AD4 and AD5. ① Serial interface: AD5: AD4: AD3 = 1: *: *. * = Don't care. ② Parallel interface: AD5: AD4: AD3 = 0: 1: 0. AD7: Address/data input/output port P7 during parallel mode. (MSB). AD0 to AD7 output have the N-ch open drain output circuit.
52	AD7 (MSB)	I/O	
53	NC	—	Not connected terminal.
54	DVSS1	—	System power supply. (Connected to ground).
55	XPALIN	I	PAL 4fsc crystal oscillator connection terminal. (4fsc = 17.734475 MHz)
56	XPALOUT	O	
57	NC	—	Not connected terminal.
58	XNTIN	I	NTSC 4fsc crystal oscillator connection terminal. (4fsc = 14.31318 MHz)
59	XNTOUT	O	
60	DVDD1	—	System power supply. (3 V system power supply: 3.3 ±0.5 V).
61	CLKSEL	I	Input to control selection between 54.0 MHz clock input (CLKIN: pin-62) and internal VCO oscillator clock. (CLKIN input mode at H).
62	CLKIN	I	54.0 MHz clock input (equipped with internal bias) Perform the terminal processing (DVDD1 or DVSST) when not used.
63	VCOR	—	Terminal where external resistor for VCO oscillator circuit adjustment is connected.
64	NC	—	Not connected terminal.
65	AVSS	—	System power supply for VCO and PLL block. (Connected to ground).
66	PLLFIL	—	Terminal where external PLL loop filter is connected.
67	AVDD	—	System power supply for VCO and PLL block. (3 V system power supply: 3.3 ±0.5 V).
68	CDCK	I	CD-DSP clock input (16.9344 MHz/2.8224 MHz/ 2.1168 MHz).
69	DVSS1	—	System power supply. (Connected to ground).
70	CDEMPH	I	Emphasis input.
71	CDC2P	I	C2 error flag input.
72	CDSD	I	Serial data input.
73	CDBCK	I	Serial data bit clock input.
74	CDLRCK	I	Left/Right clock input.
75	DVDD1	—	System power supply. (3 V system power supply: 3.3 ±0.5 V).
76	DVSS1	—	System power supply. (Connected to ground).
77	AULRCK	O	Audio data Left/Right clock output. (N-ch open drain output).
78	AUEMPH	O	Audio emphasis flat output. (N-ch open drain output).
79	AUDOUT	O	Audio data serial output. (N-ch open drain output).
80	AUBCO	O	Audio data bit clock output. (N-ch open drain output).
81	DVDD1	—	System power supply. (3 V system power supply: 3.3 ±0.5 V).
82-86	NC	—	Not connected terminal.
87	DD15 (MSB)	I/O	Data input/output to DRAM. 3-state output of DVDD2 (5 V) system.
88-96	DD14-DD6		

Pin No.	Pin Name	I/O	Description
97, 98	NC	—	Not connected terminal.
99-103	DD5-DD1	I/O	Data input/output to DRAM. Output: 3-state output of the DVDD2 (5V) system
104	DD0 (LSB)		
105	DVSS1	—	System power supply. (Connected to GND).
106	$\overline{\text{RAS1}}$	O	Raw address strobe signal output to expansion 1M-DRAM. 3-state output of the DVDD2 (5V) system.
107	$\overline{\text{RAS0}}$	O	Raw address strobe signal output to 4M-DRAM. 3-state output of the DVDD2 (5V) system.
108	NC	—	Not connected terminal.
109	$\overline{\text{WE}}$	O	Write enable signal output to DRAM. 3-state output of the DVDD2 (5V) system.
110	NC	—	Not connected terminal.
111	$\overline{\text{CAS}}$	O	Column address strobe signal output to DRAM. 3-state output of the DVDD2 (5V) system.
112	DVSS2	—	System power supply for 5V input/output terminal. (Connection to GND).
113	$\overline{\text{OE}}$	O	Output enable signal output to DRAM. 3-state output of the DVDD2 (5V) system.
114	DVDD2	—	System power supply for 5V input/output terminal. (5.0 ± 0.5 V).
115	AA8 (MSB)	O	Address output to DRAM. Output: 3-state output of DVDD2 (5 V) system.
116-122	AA7-AA1		
123	AA0 (LSB)		
124	DVDD1	—	System power supply. (3 V system power supply: 3.3 ± 0.5 V).
125	CLKO	O	VCO, PLL block clock output during test.
126	NC	—	Not connected terminal.
127	TEST	I	Test mode operation control terminal. (Normally fixed to L).
128	NC	—	Not connected terminal.

TEST MODE

1. CDテストモードの起動方法
   ファンクションCDの釦を押しながら、ACプラグを挿入する。
   上記によりFL表示管が全て点灯し、テストモードが起動します。

2. CDテストモードの解除方法
   下記のいずれか1つの操作で解除します。
   - ファンクション釦を押す(CDファンクション釦以外)
   - パワーSW釦を押す。
   - ACプラグを抜く。

3. CDテストモードの機能説明
   テストモード起動後、各操作釦を押す事により次のNo1～No5の各モード機能が使用できます。

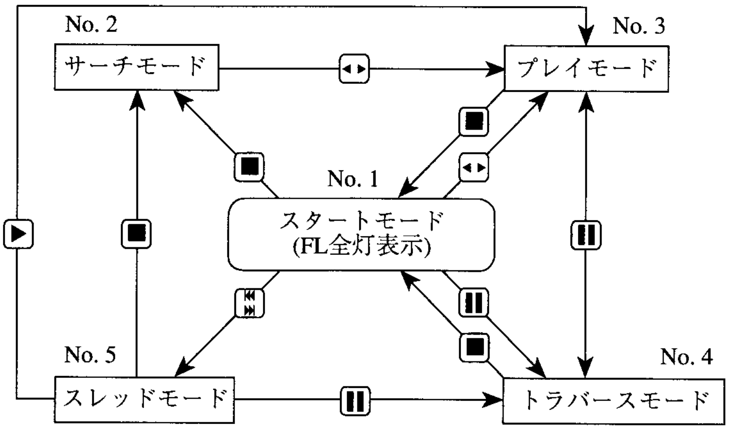
Mode/No.	操作	FL表示	動作	内容
スタートモード No.1	起動	全灯表示	・TEST MODE起動 ・CDブロック電源ON	・FL表示確認(全灯)
サーチモード No.2	■釦	CD--	・LASER DIODE常時発光 ・連続フォーカスサーチ (PUレンズがフルスイングを繰り返す) * 10分以上の連続フォーカスは避けて下さい。 *注1	・APC回路確認 ・レーザー電流測定 (レーザー電流コントロール、トランジスタのエミッター GND間の抵抗の両端。) FOCUS SERVO ・フォーカスラッチ波形確認 ・フォーカスエラー波形確認 (サーチモードではFOK/FZCは監視せず。)
プレイモード No.3	◀▶釦	CD 1	・通常再生 ・TOC READ出来ない場合 フォーカスサーチを続行 *注1	FOCUS SERVO/TRACKING SERVO CLV SERVO/SLED SERVO DRF確認
トラバースモード No.4	❚❚釦	CD 1	・DISC通常再生中 1回押す トラッキングサーボOFF 2回押す トラッキングサーボON *注2	TRACKING SERVO ON/OFF トラッキングバランス (トラバース)確認
スレッドモード No.5	⏮釦 ⏭	全灯表示	・ピックアップ外周へ移動 ・ピックアップ内周へ移動 *注3 (再生中は通常動作致します)	SLED SERVO SLEDメカ動作確認

*注1 フォーカスサーチを連続して10分以上動作し続けるとドライバーICが発熱し保護回路が働く為、トラッキングサーボがかからない状態となる場合が有ります。この様な場合には、電源を切り約10分間放熱後、再スタートして下さい。

*注2 『❚❚』状態で、『⏮』または『⏭』釦を押さない事。『❚❚』状態解除後、再生出来なくなります。『❚❚』状態で、『⏮』または『⏭』釦を押した場合には『■』釦を押しスタートモード(No.1)に戻して下さい。

*注3 ピックアップが最内周、最外周の位置でも『⏮』または『⏭』釦を押している間はスレッドモータが回転する為、ギヤ破損に注意して下さい。

4. 操作概要
   下図の様にスタートモードから、矢印方向の流れで各モードの操作が行えます。モード変更は、下図の流れに従い行って下さい。



尚、DISC DIRECT PLAY釦を押した場合には、上図のPLAY釦を押した時と同様の動作となります。またプレイモード／トラバースモード時にopen/close釦により、トレイをopenさせた場合には、スタートモードに戻ります。

1. How to Activate CD Test Mode
   Insert the AC plug while pressing the function CD button.
   All FL display tubes will light up, and the test mode will be activated.

2. How to Cancel CD Test Mode
   Either one of the following operations will cancel the CD test mode.
   - Press the function button. (except CD function button)
   - Press the power switch button.
   - Disconnect the AC plug

3. CD Test Mode Functions
   When test mode is activated, the following mode functions from No.1 to No.5 can be used by pressing the operation keys.

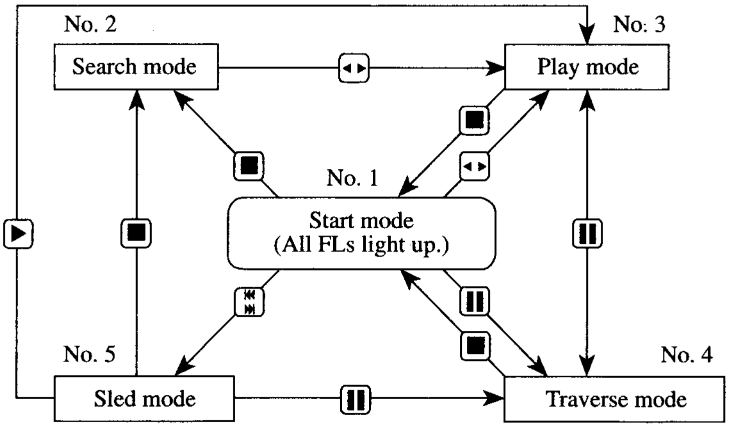
Mode/No.	Operation	FL display	Operation	Contents
Start mode No.1	Activation	All lamps light	• Test mode is activated. • CD block power is ON.	• FL display check (All displays light.)
Search mode No.2	■ key	CD--	• Laser diode turns always ON. • Continual focus search (The pickup lens repeats the full-swing up-down motion.) * Avoid continual searches that last for more than 10 minutes. * NOTE 1	• APC circuit check • Laser current measurement (Laser current control. Across a resistor connected between emitter and GND.) FOCUS SERVO • Check focus search waveform • Check focus error waveform (FOK/FZC are not monitored in the search mode)
Play mode No.3	◀ ▶ key	CD 1	• Normal playback • Focus search is continued if TOC cannot be read. * NOTE 1	FOCUS SERVO/TRACKING SERVO CLV SERVO/SLED SERVO Check DRF
Traverse mode No.4	❚❚ key	CD 1	• During normal disc playback Press once; tracking servo OFF Press twice; tracking servo ON * NOTE 2	TRACKING SERVO ON/OFF Tracking balance (traverse) check
Sled mode No.5	⏮ key ⏭	All lamps light	• Pickup moves to the outermost track • Pickup moves to the innermost track * NOTE 3 (During playback, machine operates normally.)	SLED SERVO Check SLED mechanism operation

* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.

* NOTE 2: Do not press the ⏮ or ⏭ keys when the machine is in the ❚❚ status is active. If they are pressed, playback will not be possible after the ❚❚ status has been canceled. If the ⏮ or ⏭ keys are pressed in the ❚❚ status, press the ■ key and return to the start mode (No.1).

* NOTE 3: When pressing the ⏮ or ⏭ keys, take care to avoid damage to the gears. Because the sled motor is activated when the ⏮ or ⏭ keys are pressed, even when the pick-up is at the outermost or innermost track.

4. Operation Outline
   The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.



If the DISC DIRECT PLAY button is pressed, the machine performs the same operation as the PLAY button is pressed as shown. If the tray is opened by pressing OPEN/CLOSE button during Play mode or Traverse mode, the machine returns to the Start mode.

USE MODEL LIST

- CX-NAVF77
- CX-NAVF9
- CX-NAVF99
- CX-NF15
- CX-NF9
- CX-NF98
- CX-NF99
- CX-SZ9500
- CX-SZR400
- CX-SZR800
- CX-ZKR800
- CX-ZKR900
- CX-ZR300
- CX-ZR325
- CX-ZR330
- CX-ZR400
- CX-ZR490
- CX-ZR500
- CX-ZR525
- CX-ZR600
- CX-ZR700
- CX-ZR710
- CX-ZR800
- CX-ZVR660
- CX-ZVR700
- CX-ZVR950
- DX-K9900M
- DX-Z9450M
- GE-SZ9500
- GE-Z9500
- XC-K5M

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL